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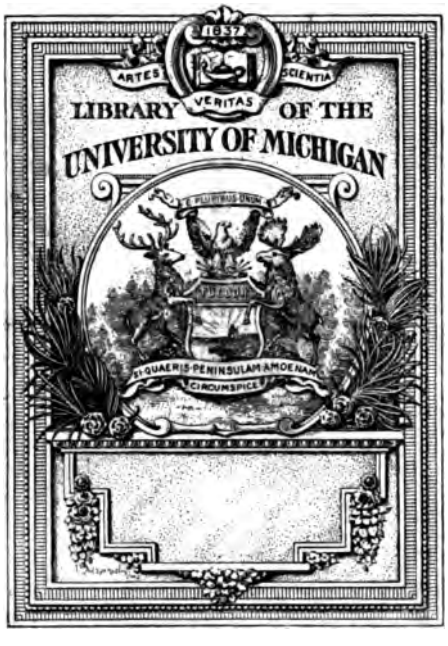
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GEOLOGICAL SURVEY OF CANADA.
ALFRED R. C. SELWYN, LL.D., F.R.S., F.G.S., DIRECTOR.

CATALOGUE

OF

CANADIAN PLANTS.

PART I.—POLYPETALÆ.

BY

JOHN MACOUN, M.A., F.L.S., F.R.S.C.

Montreal:
DAWSON BROTHERS.
1883.

In this publication it is intended to enumerate systematically the plants of the Dominion of Canada, and to define their range in so far as the knowledge at present available enables this to be done. This, the first part of the Catalogue, will be followed by others, as soon as it is possible to complete the necessary examination of collections and authorities.

ALFRED R. C. SELWYN.

OTTAWA, May, 1883.

PREFACE.

THE purpose of this work is to place in the hands of Canadian botanists, in a connected form, the knowledge so far obtained of the extent and distribution of the Flora of Canada. It is believed that this Catalogue will satisfy a long-felt want, and enable botanists to add to, or make more accurate, the data at present available, and in the course of a few years remove the serious difficulties which now stand in the way of a "Flora of Canada."

Forty-three years ago Sir William Jackson Hooker published his great work the "Flora Boreali Americana," and in it recorded all the knowledge obtained of species and their distribution by the early travellers and explorers. In the same year, 1840, Torrey and Gray published their work on the Flora of North America, which included the Polypetalæ only. Three years later the Gamopetalæ to the end of the Compositæ, was published by the same authors. After the lapse of thirty-five years Dr. Asa Gray published the remaining Gamopetalæ in the year 1878. The four works above enumerated contain all we know of Canadian botany, beyond the lists which have appeared occasionally in Canadian scientific publications.

In giving the distribution of species I have freely availed myself of all published records. My own observations, having extended from the Eastern Provinces to the Pacific, enable me to speak with accuracy and decision on many points which a more limited knowledge of distribution would preclude. The collections made during the last ten years by the gentlemen on the staff of the Geological and Natural History Survey in various parts of Canada have been examined by me, and also many other collections made in Ontario.

Through the kindness of Principal Dawson I have likewise examined the very large Herbarium of McGill College and the collections of Dr.

Holmes, made in the neighborhood of Montreal as early as 1821. The McGill College collections are from all parts of Canada, but chiefly from Quebec, and are of very great scientific interest. *

For our notices of Newfoundland plants, besides the volumes mentioned above, we are indebted to the late Dr. John Bell, who published a list of plants collected by him on the west coast of that island in the summer of 1867, in the Canadian Naturalist for 1869; and to the McGill College Herbarium.

Our knowledge of the Nova Scotia flora is derived chiefly from a list published in the Proceedings and Transactions of the Nova Scotian Institute of Natural Science for 1875–76, to which the following gentlemen contribute:—Prof. How, D.C.L., King's College, Windsor, N. S.; Prof. Lawson, Ph.D., LL.D., Dalhousie College, Halifax, N. S.; Prof. Sommers, M.D., Halifax Medical College; Rev. E. H. Ball, St. Luke's, Halifax, N. S.; D. A. Campbell, M.D., C.M., Halifax Medical College; A. W. H. Lindsay, M.D., Halifax, N. S. In addition to the published catalogue, A. H. McKay, B.A., Principal of the Pictou Academy, N. S., sent me a very valuable manuscript list of his own extensive collections in that province and the islands in the Gulf of St. Lawrence. McGill College Herbarium also supplies additional matter.

New Brunswick notices are principally from a catalogue of New Brunswick plants, published in the years 1878–79, by the Rev. James Fowler, M.A., Professor of Natural History, Queen's College, Kingston, Ont., but late Science Master in the Normal School at Fredericton, N. B. The Bulletin of the Natural History Society of New Brunswick for the years 1882–83 contains additional notices both of species and localities. Contributions from the following gentlemen are also acknowledged: G. F. Matthew, M.A., Prof. Bailey, Messrs. G. U. Hay, James Vroom, Robert Chalmers, James Moser, Arthur J. Trueman, J. Brittain, G. H. Burnett and J. E. Wetmore.

Our knowledge of the Quebec flora is obtained from the following sources: A catalogue of the plants collected by the late Dr. Andrew Holmes in the vicinity of Montreal about the year 1821. The plants themselves are in the Herbarium of McGill College. Dr. Thomas' list of the plants growing at Rivière du Loup and on the Island of Orleans. L'Abbé Ovide Brunet's Catalogue, published in 1865 by himself, and distributed to his friends, gave all the Canadian plants in the Herbarium of Laval University, Quebec. W. S. M. D'Urban collected, in the year

*Among the principal contributors to the McGill College Herbarium, the following may be mentioned:—Dr. Andrew Holmes, Miss Brodie, Rev. Mr. Butler, D. F. H. Wilkins, B.A., Labrador plants; Mr. George Barnston, Arctic plants; H. E. Trapnell, Newfoundland plants; W. W. Doherty, New Brunswick plants; Principal Dawson, Dr. F. W. Kelley, Nova Scotian plants. Also Dr. R. S. McConnell, Dr. B. J. Harrington, Dr. C. E. Graham, Dr B. J. Wales, Dr. John Bell, and Messrs. W. B. Dawson, B.A., H. H. Lyman, B.A., R. G. McConnell, B.A., D. Currie, B.A., L. M. England, B.A., Walter Lyman, B.A., J. C. McRae, J. A. Porter, B.A., R. C. Kirkpatrick, James Meahan and G. H. Blackadar.

1858, in the counties of Argenteuil and Ottawa, and published the list in the Canadian Naturalist and Geologist for 1861. A few additions have been obtained from the Canadian Flora, published by L'Abbe Provancher, and from Dr. Maclagan, who collected near Montreal, and at a few other localities in the province of Quebec. The results of my own explorations in Gaspé during the summer of 1882 are included, as well as notes obtained from an examination of the various collections in McGill College and the Herbarium of the Natural History Society of Montreal. Anything relating to the flora of the province that could be culled from Sir William Hooker's Flora is likewise added.

Ontario has been pretty thoroughly worked up in almost every district. The eastern part by Mr. James Fletcher and Mr. R. B. Whyte, of the Ottawa Field Naturalists' Club, and by the late B. Billings, Esq., in the neighborhood of Prescott and Brockville. My own explorations include the counties of Prince Edward, Addington, Hastings, Northumberland, Peterboro and Victoria, in the central district; the vicinity of Toronto, the Niagara Peninsula, the country along Lake Erie and the line of the Canada Southern railway, Pelee Point and Island, the vicinity of Owen Sound and the Bruce Peninsula; the north shore of Lake Superior, and the whole extent of the Dawson Route, from Thunder Bay to Manitoba, including the valley of the Kaministiquia River. The neighborhood of Hamilton has been well explored by the late Judge Logie and J. M. Buchan, M.A., principal of Upper Canada College, Toronto. The district around London has been carefully examined by William Saunders, Esq., President of the Entomological Society, and Dr. Thomas Burgess, Assistant Superintendent of the Insane Asylum of that city. The researches of the latter gentleman have extended from Niagara Falls to Muskoka and Parry Sound, and he has added many rare southern forms to the flora of the province. H. B. Spotten, M.A., Principal of Barrie High School, has collected largely in the vicinity of Lake Simcoe. The eminent Douglas, Dr. Todd, Mr. Goldie and Dr. Maclagan have also done good service. The collections of the three first named were examined by Sir William Hooker, and all localities credited to them are taken from his work.

Dr. Robert Bell has collected in the country north of Lake Superior, along the shores of Lake Huron and in the country extending northward to James' Bay, along the east coast of Hudson's Bay, and in the valleys of the Nelson and Churchill Rivers, and the intervening district.

The great plains between Manitoba and the Rocky Mountains have been pretty thoroughly examined. The collection made by Dr. G. M. Dawson, while geologist and naturalist to the Boundary Commission, embraces the whole flora of the 49th parallel, from the Lake of the Woods to the Rocky Mountains. During the summers of 1872, 1875,

1879 and the two following years, I made extensive journeys through both the prairie region and the wooded country to the north, as far as Lat. 59°, including the whole length of the great Peace River. M. Bourgeau, while botanist to Captain Palliser's expedition in 1857–58, made numerous traverses of the country bordering on the Saskatchewan and southward. Douglas and Drummond explored the whole country from the Red and Assiniboine Rivers, by the North Saskatchewan and Athabasca to the Rocky Mountains. The former passed across the Rocky Mountains by the Athabasca Pass, and examined the entire length of the valley of the Columbia, while the latter collected in the main range of the Rocky Mountains, between Lat. 52°–56°, and particularly in that part about the head of Smoky River, a tributary of the Peace. Sir John Richardson and other Arctic explorers noted and collected the plants of the wooded country from Hudson's Bay to the Arctic Sea, its coasts and islands, including the country north of the Saskatchewan and the whole valley of the Mackenzie.

Our knowledge of the Rocky Mountain region proper is still, however, very imperfect. Dr. G. M. Dawson has examined the region in the vicinity of the South Kootanie Pass, near the 49th parallel, and traversed the mountains by the Pine Pass, in Lat. 55°. In September, 1879, I ascended the Bow River Pass for a few miles, and obtained some knowledge of its alpine flora. Bourgeau also spent some time, in August, 1858, in the Bow River Pass and on the adjacent mountains, and made extensive collections. Douglas' and Drummond's explorations have already been referred to, but the latter may be said to have given us the most valuable information, as he spent a whole summer in the mountains. I examined the Peace River Pass and ascended Mount Selwyn at its western end, in 1875, but owing to the loss of the collections the results obtained were not satisfactory.

British Columbia, also, still requires much attention. Besides the early explorers mentioned by Hooker, the following are our sources of information: During the early part of 1875 I made very extensive collections on Vancouver Island near Victoria, and all the way, by the valley of the Fraser, from the coast to Fort MacLeod at the western base of the Rocky Mountains, in Lat. 55°. Dr. G. M. Dawson has collected on Vancouver Island, in the valley of the Fraser, and in the country lying west of it to the Coast Ranges, in 1875–76. In the summer of 1877 in southern British Columbia on the Cascades and dry valleys lying to the east. The summer of 1878 was spent by him in the Queen Charlotte Islands, and in 1879 a traverse was made to the Rocky Mountains by way of the Skeena. A. J. Hill, C.E., has added considerably to our knowledge of the flora of the Fraser and Thompson Rivers, during the summers of 1880–81–82.

Alaska has been included in the catalogue, as its flora is that of our western coast and north-western interior region. Besides the references to it taken from Hooker's Flora Boreali Americana, I have used Dr. J. T. Rothrock's Catalogue of Alaskan Plants, published in the Smithsonian Report for the year 1867.

All plants which are common to British North America and Greenland are introduced. The catalogue used is that of Sir Joseph Hooker, in the Arctic Manual published in 1875.

In conclusion, I would again state that the present work is by no means final, and would invite the co-operation of botanists in all parts of Canada in the work of adding to our list of species and assisting to define the limits and varietal range of those already known.

JOHN MACOUN.

OTTAWA, April 1883.

POLYPETALOUS EXOGENS.

I. RANUNCULACEÆ. Crowfoot Family.

1. CLEMATIS, Linn. (VIRGIN'S BOWER.)

(1.) **C. verticillaris,** DC. Whorl-leaved Clematis.

Atragene Americana, Sims. Pursh, 384.

Trailing over rocks or climbing over bushes, from the vicinity of Quebec (*Brunet*) throughout Ontario, and extending through the wooded district to the Rocky Mountains in Lat. 56° (on Mount Selwyn), and westward to the Coast Range of British Columbia; also on the foot-hills of the Rocky Mountains near the 49th parallel, and in the Bow River Pass.

(2.) **C. Virginiana,** Linn. Virginian Clematis.

C. cordata, Pursh, 384.

River banks and in low grounds along streams. Common in Nova Scotia, New Brunswick, Quebec and Ontario, and extending to Thunder Bay, Lake Superior. (*Macoun.*) At the south end of Lake Winnipeg. (*Drummond.*)

(3.) **C. ligusticifolia,** Nutt.

C. Virginiana, Hook. Fl. I.; 1 in part.

Climbing or trailing over bushes or sand on the sand hills at the source of the Qu'Appelle. (*Macoun.*) Margin of Waterton Lake, Rocky Mountains. (*Dawson.*) Spence's Bridge and Cache Creek, B. C. (*Macoun.*)

(4.) **Douglasii,** Hook. Douglas's Clematis.

On the west side of the Rocky Mountains, near the sources of the Columbia. (*Douglas.*) It may be looked for in the southern part of British Columbia.

2. ANEMONE, Linn. (WIND FLOWER.)

(5.) **A. patens,** Linn. var. **Nuttalliana,** Gray. Prairie Anemone or "May-flower."

A. patens, Linn. Hook. Fl. I., 5.
A. Nuttalliana, DC. Richards. in Frankl. Journ., 12.
Pulsatilla patens, Gray. Lawson, Ranunc. Can., 22.

Abundant on dry gravelly soil from the eastern margin of the prairie region through the Rocky Mountains, and westward to the Coast Ranges. It ranges northward beyond the Arctic Circle, and northwesterly into Alaska. (*Rothr. Alask.*)

(6.) **A. occidentalis,** Watson. Western Anemone.

A. alpina, Hook, Fl. I., 5.
Pulsatilla alpina. Lawson, Ranunc. Can. 23.

Mountains of southern British Columbia and Rocky Mountains, near the 49th parallel, at 6,000 feet altitude. (*Dawson.*) Eastern declivity of the Rocky Mountains, Lat. 52°–55°. (*Drummond.*) Kotzebue Sound. (*Rothr. Alask.*)

(7.) **A. parviflora,** Michx. Small-flowered Anemone.

A. borealis, Richards. Frankl. Journ., 12.
A. cuneifolia, Juss. Pursh. 386.

Wet rocks along rivers and in mountains. Kotzebue Sound. (*Rothr. Alask.*) Newfoundland. (*McGill Coll. Herb.*) Anticosti. (*Pursh.*) Labrador. (*T. & G.*) Dartmouth River, Gaspé. (*J. Bell.*) Magdalen River, Ste. Anne River and Shickshock Mountains, Gaspé, Q.; Pic River, Lake Superior; Bow River near Morley, N.W.T. (*Macoun.*) East coast of Hudson's Bay. (*R. Bell.*) It becomes abundant northward and extends to the Arctic Sea, Lat. 70°. (*Hooker.*) Kootanie Pass, Rocky Mountains. (*Dawson.*)

(8.) **A. Baldensis,** Hook.

Arid places on the eastern summits of the Rocky Mountains, Lat. 52°–55°. (*Drummond.*) Watson in his Index to American Botany gives this as a synonym of *A. multifida,* which, however, is scarcely probable. I found a species which I took to be this on Mount Selwyn, in the Peace River Pass, Lat. 56°, but the specimens were lost.

(9.) **A. nemorosa,** Linn. Wood Anemone.

A. lancifolia, Pursh. 387.

Thick woods under trees. Not uncommon in New Brunswick.

(*Fowler.*) From Gaspé to Dunvegan, (Lat. 56°) on Peace River, and throughout British Columbia to Vancouver Island. (*Macoun.*) Dean or Salmon River, B. C. (*Dawson.*) Local but not rare.

(10.) **A. deltoidea,** Hook.

Salmon River, near Salmon House, Coast Range, B. C., 1876. (*Dawson.*)

(11.) **A. Richardsoni,** Hook. Richardson's Anemone.

A. ranunculoides, var. Richards. Frankl. Journ. 12.

Eastern primitive district; shores of Hudson's Bay; barren ground, Rocky Mountains, from Lat 55°–68°, in wet, mossy ground. (*Richardson, Drummond.*) York Factory. (*R. Bell.*) Ounalaska Island, Kotzebue Sound; Youcon River. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(12.) **A. cylindrica,** Gray. Long-fruited Anemone.

Fence corners and borders of woods. Township of Durham, Quebec. (*Brunet.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Belleville and westward to the Rocky Mountains. (*Macoun.*)

(13.) **A. Virginiana,** Linn. Virginian Anemone.

Dry, rocky woods and banks of rivers. Mouth of Upsalquitch River, Grand Falls of St. John. N. B. (*Fowler's Cat.*) Abundant from Gaspé to Fort William and across the plains to the Rocky Mountains (*Macoun.*) Extending northward to Lat. 55°. (*Drummond.*) This species and the preceding are often confounded.

(14.) **A. multifida,** DC. Red Wind-flower.

A. Hudsoniana. Richards. in Frankl. Journ., 13.

River St. John, above Fredericton; Grand Falls, N. B. (*Fowler's Cat.*) From Gaspé to Lake Superior, Pic River to the Lake of the Woods, and across the great plains and northwardly by Peace River to British Columbia. (*Macoun.*) Shores of Hudson's Bay. (*R. Bell.*) Arctic Sea. (*Richardson.*)

(15.) **A. dichotoma,** Linn. Round-headed Anemone.

A. Pennsylvanica, Linn. Hook. Fl. I., 8.
A. aconitifolia. Michx. Fl. I., 320.

Abundant along river margins and in low meadows. Truro, N. S. (*Campbell.*) Along St. John River and tributaries; Restigouche, N.B. (*Fowler's Cat.*) Abundant from Gaspé to the valleys of the Rocky Mountains. (*Macoun.*) From Hudson's Bay to the mouth of the Mackenzie and westward to the Pacific. (*Hooker.*)

(16.) **A. narcissiflora,** Linn. Narcissus-flowered Anemone.

Rocky places. Northwest coast; Alaska. (*Rothr. Alask.*) Will likely be found in British Columbia.

(17.) **A. Hepatica,** Linn. Liverwort. May Flower.

Hepatica triloba, Chaix. Gray, Manual, 38.

Dry, rich woods. Falmouth and Bridgewater, N. S. (*How & Ball.*) Pictou, N. S., very rare. (*Mackay.*) St. Stephens and Keswick Ridge, N. B. (*Fowler's Cat.*) Rather rare in Quebec from the Isle of Orleans westward. (*Brunet.*) Abundant throughout Ontario. (*Macoun.*) Reported from River Winnipeg by Captain Back, and Rocky Mountains, Lat. 55°, by Drummond. These references are doubtful. (*Macoun*). Sitka. (*Rothr. Alask.*)

(18.) **A. acutiloba,** Lawson. May Flower.

Hepatica triloba, var. acuta. Pursh, 391.
H. acutiloba, DC. Gray's Manual, 38.

Rich, shady woods. Point Levis. (*Brunet.*) Common around Montreal. (*McGill Coll. Herb.*) Abundant throughout Ontario. (*Macoun.*)

3. THALICTRUM, Tourn. (MEADOW-RUE.)

(19.) **Thalictrum anemonoides,** Michx. Rue Anemone.

Syndesmon thalictroides, Hoffm. Lawson, Ranunc. Can., 31.

Rich, rocky woods. Vicinity of Niagara Falls and Pelee Island, Lake Erie. (*Macoun.*) St. Davids, Niagara District, Ont. (*Maclagan.*) Oaklands, near Hamilton, Ont. (*Logie.*)

(20.) **T. dioicum,** Linn. Early Meadow-rue.

T. lævigatum, Michx. Fl. I., 322.

Rich woods. Keswick Ridge, rare; Flat lands, Restigouche, N. B. (*Fowler's Cat.*) Abundant from Gaspé to the Pacific. (*Macoun.*) North to Lat. 67°. (*Hooker.*)

(21) **T. purpurascens,** Linn. Purplish Meadow-rue.

T. pubescens, Pursh, 383.

Dry uplands and rocky hills. St. Joachim, Quebec. (*Provancher.*) Vicinity of Belleville and at Heely Falls, Seymour, Ont. (*Macoun.*) Near London, Ont. (*Burgess.*)

(22.) **T. Cornuti,** Linn. Fall Meadow-rue.

T. rugosum, Pursh, 388.
T. corynellum, DC. Richards. in Frankl. Journ., 12.

Wet meadows, around springs and along rivulets. Common from Nova Scotia and New Brunswick through the wooded districts to the Pacific. North to Peace River. (*Macoun.*) Coast of Labrador. (*McGill Coll. Herb.*) Anticosti. (*Verrill.*) Newfoundland. (*J. Richardson.*)

(23.) **T. alpinum,** Linn. Alpine Meadow-rue.

Island of Anticosti, 1861. (*Verrill.*) Newfoundland. (*Banks.*) Kotzebue Sound and Port Clarence. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(24.) **T. sparsiflorum,** Turcz. Few-flowered Meadow-rue.

T. clavatum, Hook. Fl. I., 2.

Low, rich alluvial soil. Low ground along the eastern base of the Porcupine Mountains, about Lat. 53°, Man. Macleod's Lake, Lat 55°, B. C. (*Macoun.*) Portage La Loche, a height of land composed of sand hills, Lat. 57°, N. W. T. (*Richardson.*)

4. MYOSURUS, Dill. (MOUSE-TAIL.)

(25.) **M. minimus,** Linn. Least Mouse-tail.

On ground subject to overflow and on limestone shingle at the Ferry House opposite Belleville; rocky pastures west of Albert College, Belleville, Ont. Arid spots north of Cypress Hills, N. W. T. Near Victoria, Vancouver Island, B. C. (*Macoun.*) Near Short Creek, Souris River, N.W.T. Tsi Tsutl Mountains, B. C. (*Dawson.*)

(26.) **M. aristatus,** Benth. Awned Mouse-tail.

Arid soil, west of the Elbow of the South Saskatchewan, 1879; near Reed Lake, Lat. 50° 30′, Long. 107° 20′, N. W. T. Abundant near Lytton, B. C. (*Macoun.*)

5. RANUNCULUS, Linn. (CROWFOOT. BUTTERCUP.)

(27.) **R. hederaceus,** Linn.

R. aquatilis, Linn. var. *Lobbii*. Watson's Index, 17.

Growing in a pool by the roadside near Esquimault Harbor, Vancouver Island, 1875. (*Macoun.*)

(28). **R. aquatilis,** Linn. var. **trichophyllus,** Chaix. White Water-crowfoot.

R. fluviatilis, Pursh, 395.
R. aquatilis var. *capillaceus,* DC. Hook. Fl. I., 10.
R. aquatilis var. *brachypus,* Hook. & Arn. Torr & Gray, Fl. I., 658.

Common in stagnant pools and slow-flowing brooks, from Cape Breton (*How.*) to British Columbia. (*Macoun.*) Coppermine River. (*Simpson*) Greenland. (*Hook. Arct. Pl.*)

Var. **stagnatilis,** DC.

R. divaricatus, Gray, Manual, 40.

In stagnant pools from Rat Creek, Manitoba, westward to the mountains. (*Macoun.*)

Var. **cæspitosus,** DC.

Borders of forest lakes. Small lakes, North Hastings, Ont. (*Macoun.*), thence northward and westward. (*Hooker.*)

The first is the common eastern form, and often grows in company with the latter, while the second is the characteristic form of the stagnant pools of the prairies.

(29.) **R. multifidus,** Pursh. Yellow Water-crowfoot.

R. Purshii, Torr. Hook. Fl. I., 16.

Common in stagnant pools and ditches. Cape Breton Island to the Pacific and northward to near the Arctic Sea. Kotzebue Sound. (*Rothr. Alask.*)

Var. β. Watson's Index, 20.

R. Purshii var. γ. Hook. Fl. I., 15.
R. limosus, Nutt. in Torr & Gray, Fl. I., 20.

In or on the margins of small pools on the great prairies; in the Touchwood Hills, N. W. T. (*Macoun.*) Lakes and marshes about Cumberland House and Slave Lake. (*Richardson.*) Rocky Mountains. (*Drummond.*) In pools near Stuart's Lake, B.C. (*Macoun.*)

Var. γ. **repens,** Watson in King's Rep., 8.

R. Purshii, var. β. Richardson.

In a muddy brook near Flinton, Hastings Co., Ont. Numerous places on the great prairies. (*Macoun.*) Swamps, foot-hills of Rocky Mountains. (*Dawson.*) Bear Lake. (*Richardson.*)

(30.) **R. alismæfolius,** Geyer. Water-plantain. Spearwort. Macoun's Cat., No. 23.

In inundated places on mud. Southern part of Ontario. (*Goldie.*)

Vicinity of Port Colborne, Ont. (*McGill Coll. Herb.*) Near Victoria, Vancouver Island. (*Macoun.*)

(31.) **R. flammula,** Linn. var. **intermedius,** Hook.

Shore of Lake Ontario at Presqu' Ile Point and on Toronto Island. (*Macoun.*) On the gravelly banks of rivers to Lat. 69°. (*Richardson.*) South Greenland. (*Hook. Arct. Pl.*)

Var. **reptans,** Meyer. Creeping Crowfoot.

R. reptans, Linn. Macoun's Cat., No. 48.
R. filiformis, Michx. Fl. I., 320.
R. flammula var. *filiformis*, Hook. Fl. I., 11.

Abundant along the gravelly margins of lakes and rivers from Nova Scotia to the Coast Ranges of British Columbia, and northward to the Arctic Sea. (*Macoun.*) Greenland. (*Hook. Arct. Pl.*) This form is very persistent, and roots at almost every joint.

(32.) **R. Cymbalaria,** Pursh. Seaside Crowfoot.

Sea shores and margins of salt ponds in the prairie region and interior of British Columbia. Common in Nova Scotia and New Brunswick. (*How & Fowler.*) Gaspé, Q.; Fort William, Lake Superior. (*Macoun.*) Vicinity of Montreal. (*McGill Coll. Herb.*) On mud flats along the Ottawa at Thurso, Q. (*Fletcher, Fl. Ott.*) Along the Ottawa River at Beauharnois, Q. (*McGill Coll. Herb.*) From Hudson's Bay to near the Arctic Sea in Lat. 63°. (*Richardson.*) Pacific coast. (*Dawson.*) South Greenland. (*Hook. Arct. Pl.*)

Var. **alpinus,** Hook. Fl. I., 11.

Near the summits of the Rocky Mountains, between Lat. 52°–55°. (*Drummond.*)

(33.) **R. rhomboideus,** Goldie. Rhomboid-leaved Crowfoot.

R. ovalis, Raf. Hook. Fl. I., 12.
R. brevicaulis, Hook. Fl. I., 13.

Dry ground and sand hills. Near Montreal. (*Dr. Holmes*). Sand hills near Trenton, and Rice Lake Plains, Ont.; banks of the Humber near Toronto. (*Macoun.*) Lake Simcoe, Ont. (*Goldie.*) Near London, Ont. (*Saunders.*) Sandy plains of the Rivière aux Sables, Lambton Co., Ont. (*Gibson.*) Lake of the Woods and various places on the Western plains. (*Macoun.*) Lake Winnipeg. (*Barnston.*) Red River Prairie and Pembina Mountain. (*Dawson.*) Alpine prairies of the Rocky Mountains and about Carleton House, Lat. 52°–55°. (*Drummond.*)

(34.) **R. affinis,** R. Br. Rough-fruited Crowfoot.

R. arcticus, Richards. in Frankl. Journ. 13.

Abundant west of Moose Mountain, N.W.T. (*Macoun.*) Lake of the Woods and Trader's Road, north of Woody Mountain, N. W. T. (*Dawson.*) From Long. 95° to the western declivity of the Rocky Mountains, Melville Island and shores of the Arctic Sea, between Long. 107°–159°. (*Richardson*). Barren summits of the Rocky Mountains on the eastern side of the ridge, Lat. 52°–55°. (*Drummond.*) Quesnel, B.C. (*Macoun.*) Greenland. (*Hook. Arct. Pl.*)

Var. **cardiophylius,** Gray.

R. cardiophyllus, Hook. Fl. I., 14.

Vicinity of Morley, Bow River; seven miles northwest of Edmonton. (*Macoun.*) In the central prairie and limestone districts to Lat. 55°. Alpine prairies of the Rocky Mountains. (*Drummond.*)

Var. **leiocarpus,** Trautv.

Top of Mount Albert, 4,000 feet altitude, Shickshock Mountains, Gaspé, Q. (*Macoun.*)

(35.) **R. glaberrimus,** Hook. Smooth Crowfoot.

Near Lake La Hache, and above Boston Bar, B.C. (*Macoun.*) Kettle Falls of the Columbia and on the Rocky Mountains, near the limit of perpetual snow. (*Douglas.*)

(36.) **R. fascicularis,** Muhl. Bundle-rooted Buttercup.

Dry, gravelly soil. Kingston Mills, Chippewa and Malden, Ont. (*Maclagan.*) Belleville, Trenton, vicinity of Toronto, Niagara Falls, Ont. (*Macoun.*) Common east of London Ont. (*Saunders.*) Hamilton, Ont. (*Logie.*) South end of Lake Winnipeg. (*Richardson.*) Last reference doubtful.

(37.) **R. abortivus,** Linn. Small-flowered Buttercup.

In old pastures and woods quite common. Pictou, N.S. (*McKay.*) Common in New Brunswick. (*Fowler's Cat.*) Anticosti and Newfoundland. (*Verrill.*) Abundant in Quebec and Ontario, extending through the forest region to British Columbia by Peace River. (*Macoun.*)

Var. **micranthus,** Gray, Manual, 42.

R. micranthus, Nutt. in Torr & Gray, Fl. I., 18.

Rocky shores. Grand Etang, Gaspé, Q. Along the canal at the Sault

Ste. Marie. Quesnel, B.C. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*) Rare.

(38.) **R. sceleratus,** Linn. Noxious Buttercup.

In ditches and muddy pools. St. Stephen, Shediac and River Charlo N. B. (*Fowler's Cat.*) Gaspé and Point Levis, Q. (*Macoun.*) Belœil Mountain, Q. (*J. Bell.*) Vicinity of Montreal. (*McGill Coll. Herb.*) Very common in Ontario and in ponds on the Great Plains by Peace River to British Columbia. (*Macoun.*) Slave Lake and North to Lat. 67°. (*Richardson.*)

(39.) **R. recurvatus,** Poir. Hooked Buttercup.

Rich, damp woods. Labrador. (*Pursh.*) Pictou, N.S. (*McKay.*) Shaded brook at Bass River, Kent Co., N.B. (*Fowler's Cat.*) Beaumont, Saint Joachim, Pied du Cap Tourmonte, Q. (*Brunet.*) Montreal Mountain and Eastern Townships, frequent. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Prescott, Ont. (*Billings.*) More abundant westward throughout Ontario and disappearing at the Lake of the Woods. (*Macoun.*)

(40.) **R. pygmæus,** Wahl. Diminutive Crowfoot.

R. Sabinii, R. Br. Hook. Fl. I., 17.

Labrador. (*Pursh.*) Moist, grassy places on the higher parts of the Rocky Mountains, in Lat. 55°. (*Drummond.*) Melville Island and shore of the Arctic Sea from Long. 170° to the mouth of the Coppermine River. (*Richardson.*) Top of Mount Selwyn, Peace River Pass, Lat. 56°. (*Macoun.*) Rocky Mountains near the 49th parallel, 6,000 feet altitude. (*Dawson.*) Kotzebue Sound. (*Rothr. Alask.*) West Greenland. (*Hook. Arct. Pl.*)

(41.) **R. Lapponicus,** Linn. Lapland Crowfoot.

Mossy woods in the eastern and central districts and from Lat 50° to the Arctic Sea. (*Richardson.*) Mountain swamps, eastern declivity of the Rocky Mountains, Lat. 52°–57°. (*Drummond.*) Mossy swamps along the base of the Porcupine Mountains, Man., swamp near St. Albert at Edmonton, N. W. T., swamps along Little Slave Lake; N. W. T., and in numerous swamps in northern British Columbia. (*Macoun.*) Whale Islands in the Arctic Sea. (*Ross.*) Kotzebue Sound. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*) In the spring of 1881 the Rev. J. K. Macmorine pointed out to me a few specimens growing in a little swamp within the limits of the town of Prince Arthur's Landing, Thunder Bay; this seems to be its most southern limit.

(42.) **R. hyperboreus,** Rottb. Northern Crowfoot.

Marshes in the Rocky Mountains, Lat. 52°–57°. (*Drummond.*) Arctic Islands. (*Parry.*) Norton Sound to Wainright Inlet. (*Rothr. Alask.*) Melville Island. (*Dr. Walker.*) On both sides of Davis Strait and Baffin's Bay. Greenland generally. (*Hook. Arct. Pl.*)

(43.) **R. Hookeri,** Regel. Hooker's Crowfoot.

R. pedatifidus, Hook. Fl. I., 18.

Barren summits of the Rocky Mountains, on the eastern side of the ridge. Lat. 52°–55.° (*Drummond.*)

(44.) **R. nivalis,** Linn. Mountain Crowfoot.

R. frigidus, Willd. Hook. Fl. I., 18.

Lofty parts of the Rocky Mountains, Lat. 55°. (*Drummond.*) Copper Mountains and Arctic Sea coast, in muddy pools which become dry during summer, Long. 110°. (*Richardson.*) Arctic coast near the termination of the Rocky Mountains, Long. 140°. (*Franklin.*) Labrador. (*Torr. & Gray.*) Assistance Bay, south end of Cornwallis Island. (*Dr. Sutherland.*) Kotzebue Sound. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

Var. **Eschscholtzii,** Watson.

R. Eschscholtzii, Schlecht. Hook. Fl. I., 18.

Near the region of perpetual snow, on the borders of streams on the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Top of Mount Selwyn, Peace River Pass, Lat. 56°. (*Macoun.*) Rocky Mountains near the 49th parallel; and the Tsi Tsutl Mountains and Coast Range, B. C. (*Dawson.*) Kotzebue Sound to Cape Lisburne. (*Rothr. Alask.*)

Var. **sulphureus,** Wahl.

R. sulphureus, Solander. Hook. Fl. I., 17.

Repulse Bay. (*Dr. Rae.*) Arctic Islands and Greenland. (*Hooker.*)

(44 *b.*) **R. glacialis,** Linn.

R. Chamissonis, Schlecht.

Fury Beach, Elwyn Inlet, Gulf of Boothia. (*Capt. A. H. Markham.*) Greenland. (*Hook. Arct. Pl.*)

(45.) **R. acris,** Linn. Meadow Buttercup.

Introduced. Very abundant in every part of Ontario and Quebec, and particularly so about the Sault Ste. Marie and Garden Rivers. Quite common in Nova Scotia, and also becoming common in the eastern part of Manitoba. (*Macoun.*) Newfoundland. (*J. Bell.*) Too abun-

dant in damp fields, New Brunswick. (*Fowler's Cat.*) South Greenland. (*Hook. Arct. Pl.*) It is a pernicious weed in all damp meadows and pastures in the eastern provinces and the western part of Ontario.

(46.) **R. bulbosus,** Linn. Bulbous-rooted Crowfoot.

Introduced. Pastures near Barrie, Ont. (*Spotten.*) Roadsides near London, Ont. (*Burgess.*) Vicinity of Hamilton, Ont. (*Buchan.*)

(47.) **R. Pennsylvanicus,** Linn. Bristly Buttercup.

Moist meadows and borders of streams. Pictou, N. S. (*McKay.*) Wet places, rather rare, in New Brunswick. (*Fowler's Cat.*) Gaspé, Rivière du Loup, District of Montreal, and River Rouge, Q.; vicinity of Ottawa, Prescott, various places throughout central Ontario, Chippewa, St. Catherines, Toronto, London, Ont.; westward in the wooded country to the Rocky Mountains and through British Columbia to the Pacific. (*Macoun.*) North to beyond the Arctic circle. (*Hooker.*)

(48.) **R. repens,** Linn. Creeping Crowfoot.

R. tomentosus, Poir. Torr. & Gray Fl. I., 23.

Introduced. I prefer, as there is much confusion regarding this species, to place all references to the introduced form under this name, and the native forms as varieties. Quite common in the vicinity of Montreal. (*McGill Coll. Herb.*) Mr. Ami, of the Geological Survey, collected a small specimen of the true *R. repens* in the vicinity of Quebec, and I detected a few in a field at Little Métis, Q., 1882. (*Macoun.*)

Var. **hispidus,** Torr. & Gray.

R. hispidus, Michx. Hook. Fl. L., 19.
R. Marilandicus, Poir. Pursh. 394.
R. Schlechtendahlii, Hook. Fl. I,, 21.
R. repens, var. *Marilandicus,* Torr. & Gray, Fl. I., 31.

Overflowed intervales along streams and in damp shady places. Pictou, N. S. (*McKay.*) Abundant in damp shady places. (*Fowler's Cat.*) Magdalen River, Gaspé, Q. (*Macoun.*) Rivière du Loup, Q., not uncommon. (*Thomas.*) Common near Quebec. (*Brunet.*) Vicinity of Montreal and Newfoundland. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Prescott, Ont. (*Billings.*) Common at London, Ont. (*Saunders.*) Common at Hamilton, Ont. (*Logie.*) Galt, Ont. (*Buchan.*) Chippewa and Malden, Ont. (*Maclagan.*) Cold Creek, Ont.; common from Manitoba westward, (an upright form). (*Macoun.*) Banks of rivers from the Eastern Provinces to near the mouth of the Mackenzie River, Lat. 67°, and from the shores of Hudson's Bay to the Pacific.

(*Hooker.*) Eastern declivity of the Rocky Mountains, Lat. 52°-55°, in rich soils; plentiful. (*Drummond.*)

Var. **nitidus,** Chapman, Fl. S. States, 8.

(?) *R. septentrionalis,* Poir. Torr. & Gray, Fl. I., 25.
R. nitidus, Muhl. Hook. Fl. I., 20.

Canada. (*Mrs. Percival.*) A form which is probably referable to this variety has been found at London, Ont., (*Burgess.*) and in the vicinity of Ottawa. (*Fletcher.*)

Further information regarding the above forms is much needed.

(49.) **R. Nelsoni,** Gray. Nelson's Crowfoot.

R. recurvatus, var. *Nelsoni,* DC. Hook. Fl. I., 20.
R. occidentalis, Torr. & Gray, Fl. I., 22; in part.

This species seems confined to the West Coast, as the only points where detected are Vancouver Island near Victoria. (*Macoun.*) and Queen Charlotte Islands. (*Dawson.*) Unalaschka. (*Hooker.*) Sitka. (*Rothr. Alask.*)

Var. **tenellus,** Gray.

R. tenellus, Torr. & Gray, Fl. I., 23.

Vancouver Island; near Yale, and along the waggon road from Clinton to Quesnel, B.C. (*Macoun.*)

(50.) **R. Californicus,** Benth.

R. acris var. β., Torr & Gray, Fl. I., 21.
R. acris, Linn. Macoun, Report Geol. Survey, 1875.

Abundant in the vicinity of Victoria, Vancouver Island, and doubtless quite common. (*Macoun.*) Queen Charlotte Islands. (*Dawson.*)

(51) **R. occidentalis,** Nutt. Western Crowfoot.

R. hispidus, Hook. Fl. I, 19; in part.

Queen Charlotte Islands. (*Dawson.*) Sitka. (*Torr. & Gray.*)

Doubtful Species.

(52.) **R. orthorhynchus,** Hook.

Will likely be found in Southern British Columbia, or along the coast.

(53.) **R. Pallasii,** Schlecht.

On the Western shores of extreme Arctic America beyond Behring's Straits. (*Hooker.*) Kotzebue Sound. (*Rothr. Alask.*)

6. CALTHA, Linn. (MARSH MARIGOLD.)

(54.) **C. palustris,** Linn. Spring Cowslip.

C. arctica, R. Br. Hook. Fl. I., 22.

In swamps and marshy meadows. Straits of Belle Isle. (*J. Richardson.*) Mingan and Anticosti. (*Verrill.*) Nova Scotia. (*Ball.*) Common in New Brunswick. (*Fowler's Cat.*) Throughout Quebec. (*Brunet.*) Abundant in all parts of Ontario, and extending across through the forest country to the Rocky Mountains. (*Macoun.*) Coast of the Arctic Sea, and Melville Island. (*Hooker.*) Richard's Island, at the mouth of the Mackenzie River. (*Pullen.*)

Var. **Sibirica,** Regel.

C. integerrima, Pursh. 390.
C. asarifolia, DC. Hook. Fl. I., 22.
C. palustris, var. *parnassifolia*, Torr. & Gray Fl. I., 26. Also vars. *flabellifolia* and *integerrima*, Torr. & Gray, Fl. I., 26.

Unalaschka and Aleutian Isles. (*Hooker.*) Alaska (*Rothr. Alask.*) May probably be found in Northern British Columbia.

Var. **minima,** Regel.

C. biflora, DC. Hook., Fl. I., 22.

Banks' Isles, on the northwest coast. (*Menzies.*) Tsi Tsutl Mountains, B. C. (*Dawson.*)

(55.) **C. leptosepala,** DC.

Northwest coast of America. (*Menzies.*) Alpine swamps in the Rocky Mountains, Lat. 52°–55°. (*Drummond.*) Cariboo Mountains, and Coast Range, B.C. (*Dawson.*) Sitka. (*Rothr. Alask.*)

(56.) **C. natans,** Pall. Floating Marsh-marigold.

Creeping on the surface of deep sphagnous bogs, in the central districts from the Eastern Provinces (?) to Lat. 60°, rare. (*Hooker.*) Flowing stream twenty miles west of Edmonton, on the Lac La Nun road, N.W.T., 1872; Peace River tributaries, near Fort St. John; Methy River, near Methy Portage, Lat. 57°, N.W.T. (*Macoun.*)

7. COPTIS, Salisb. (GOLD THREAD.)

(57.) **C. trifolia,** Salisb. Three-leaved Gold-thread.

Low damp woods and cedar swamps. Abundant from Newfoundland and Nova Scotia to the Rocky Mountains. Flowering according to

situation, from early in May in the more southern regions to September in the mountains. Labrador and north to Lat. 58°. (*Hooker.*) Sitka (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(58.) **C. asplenifolia,** Salisb. Spleen-wort-leaved Gold-thread.

Rich woods northwest coast. (*Menzies.*) Queen Charlotte Islands. (*Dawson.*) Rich woods New Westminster, B. C. (*Macoun*). Sitka. (*Rothr. Alask.*)

8. AQUILEGIA, Tourn. (COLUMBINE.)

(59.) **A. Canadensis,** Linn. Wild Columbine.

Rocky hill sides and open woods. Northwest Arm Halifax, N. S. (*Lawson.*) Falls of Montmorenci, Point Levis, Isle of Orleans, Q. (*Brunet.*) Gniess rocks, Sixteen-Mile Lake, River Rouge, Q. (*D'Urban.*) Montreal Mountain. (*McGill Coll. Herb.*) Common throughout Ontario and up the Kaministiqua River. (*Macoun*). Near Emerson, Man. (*Dawson.*) Lake Winnipeg. (*Back.*) Saskatchewan Plains. (*Bourgeau.*)

(60.) **A. formosa,** Fisch. Western Columbine.

A. Canadensis, Hook. Fl. I., 26; in part.
A. Canadensis var. *formosa*, Watson. Macoun's Cat., No. 60.

Rich grounds and rocky slopes. A most beautiful species. Vancouver Island; Queen Charlotte Islands; mainland of British Columbia from the valley of the Fraser to Lat. 56°, western slopes of Rocky Mountains. (*Macoun and Dawson.*) Sitka. (*Rothr. Alask.*)

(61.) **A. brevistyla,** Hook. Short-styled Columbine.

A. vulgaris, (?) Richards. in Frankl. Journ. 13.

Western parts of Canada. (*Drummond.*) As far north as Bear Lake. (*Richardson.*) Clear Water River, below Methy Portage, N.W.T.; "Lake Nipigon, chiefly near Lake Superior." (*Governor McTavish.*) Rocky Mountains. (*Bourgeau.*) Telegraph Trail, B.C.; Peace River, at the Rocky Mountain Portage, Lat. 56°. (*Macoun.*)

(62.) **A. vulgaris,** Linn. Common Columbine.

Introduced.—Abundant in the grounds at the Princes Lodge, Halifax Co., and in spots along the Railway Line, and Windsor Road, N.S. (*Lawson.*) Pictou, N.S. (*McKay.*) Escaped from gardens near St. John, N.B. (*Fowler's Cat.*) Roadsides, Bolton, Q. Near Charlesburg, Q. (*McGill Coll. Herb.*)

(63.) **A. flavescens,** Watson. Yellow-flowered Columbine.

Rocky Mountains, Kootanie Pass. (*Dawson.*) Bow River Pass, in thickets and at the base of the cliffs of the eastern range. (*Macoun.*) Rocky Mountains. (*Bourgeau.*) Later investigations seem to prove that this plant is a form of *A. cærulea*, a species not uncommon more to the south in the Rocky Mountains.

9. TROLLIUS, Linn. (GLOBE FLOWER.)

(64) **T. laxus,** Salisb. Spreading Globe-flower.

T. Americanus, Muhl. Hook. Fl. I., 23.

T. patula, Salisb. Macoun's Cat., No. 57.

Alpine rivulets on the eastern declivity of the Rocky Mountains Lat. 52°–55°. (*Drummond.*) Top of the Rocky Mountains, Kootanie Pass; Coldwater River, Cascade Mountains, B. C. (*Dawson.*) Mountains of Cariboo. (*Macoun.*)

10. DELPHINIUM, Tourn. (LARKSPUR.)

(65.) **D. Consolida,** Linn. Field Larkspur.

Escaped from gardens. Banks of the St. Lawrence, west of Prescott, Ont. (*Billings.*) Gardens, waste places, and wheat fields near Belleville, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*)

(66.) **D. scopulorum,** Gray. Rocky Mountain Larkspur.

D. exaltatum, Hook. Fl. I., 25.

D. elatum, L. var. *occidentale*, Watson. Macoun's Cat. No. 65.

Rocky Mountains, Lat. 52°–55°. (*Drummond.*) Abundant near Morley, Bow River; on the Saskatchewan, as far east as Carleton, and northward to the Peace River, Lat. 56°. (*Macoun.*) Saskatchewan and Rocky Mountains. (*Bourgeau.*) Iroquois Creek, near Fort McLeod, B. C. (*Dawson.*) Youcon River, Alaska; Clear Water Lake, N. W. T. (*Governor McTavish.*)

(67.) **D. Menziesii,** DC. Menzies' Larkspur.

D. pauciflorum, Nutt. Torr. & Gray, Fl., I. 33.

Northwest coast of America. (*Menzies.*) Abundant on Cedar Hill and many other localities near Victoria, Vancouver Island. (*Macoun and Dawson.*) Kotzebue Sound to Cape Lisburne. (*Rothr. Alask.*)

(68.) **D. variegatum,** Torr. & Gray.

D. decorum, Fisch. & Mey. Macoun's Cat., No. 67.

Under cliffs near the waggon road, Yale, B. C. (*Macoun.*) This species has also been found in the same vicinity by Mr. A. J. Hill of the C. P. R. staff.

(69.) **D. azureum,** Michx. Prairie Larkspur.

D. virescens, Nutt. Torr. & Gray, Fl. I., 32.

South of Lake Winnipeg. (*Dr. Houghton.*) Plains near Wood Mountain, N.W.T. (*Dawson.*) Dry slopes Cypress Hills, N.W.T. (*Macoun.*) West of Rocky Mountains between Fort Youcon and Lapierre's House, Alaska; also Fort Youcon. (*Gov. McTavish, vide Lawson.*)

11. ACONITUM, Toum. (MONKSHOOD.)

(70.) **A. Fischeri,** Reich. Western Aconite.

A. nasutum, Hook. Fl. I., 26.
A. Columbianum, Nutt. Torr. & Gray., Fl. I., 34
A. nasutum, Fisch. Macoun's Cat, No. 71.

Will likely be found on the west coast. (*Macoun.*)

(71.) **A. Napellus,** L. var. **delphinifolium,** Seringe. Mountain Monkshood.

A. delphinifolium, DC. Lawson Ranunc, Can. 49.
A. Napellus, Linn, Macoun's Cat., No. 70.

Sledge Island on the west coast of America. (*Menzies.*) Moist mountain prairies, in the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Youcon River, near the Arctic circle, also between Fort Youcon and Lapierre's House, west side of Rocky Mountains. (*Hardesty & McTavish.*) Misinchinca River near Pine River Pass, Rocky Mountains. (*Dawson.*) Woods between McLeod's Lake and Stuart Lake, B.C. (*Macoun.*) Between Point Barrow and Mackenzie River. (*Rothr. Alask.*)

12. TRAUTVETTERIA, Fisch. (FALSE BUG BANE.)

(72.) **T. palmata,** var. **occidentalis,** Gray.

T. grandis, Nutt. in Torr. & Gray, Fl. I., 37.
T. occidentale, Gray. Macoun's Cat., Nos. 22 and 23.
Actæa palmata. Hook. Fl. I., 26.

Northwest coast. (*Menzies.*) Rich woods on the Lower Fraser, British Columbia, a single specimen obtained in 1872. (*Macoun.*)

13. ACTÆA, Linn. (BANEBERRY.)

(73.) **A. alba,** Bigelow. White Cohosh.

A. spicata, var. *alba*, Linn. Michx. Fl. I., 308.
A. Americana, var. *a.* Pursh, 306.

Rich woods and low flats along streams. Nova Scotia. (*Dr. How.*) Anticosti. (*Verrill.*) New Brunswick. (*Fowler's Cat.*) Throughout Quebec and Ontario, and through the wooded country to the Coast Range in British Columbia.

(74.) **A. spicata,** Linn. var. **rubra,** Ait. Red Cohosh.

A. rubra, Willd. Hook. Fl. I., 28.
A. brachypetala, var. *β.* Richards. in Frankl. Journ., 12.
A. Americana, *β.* Pursh. 366.

Common in rich woods from Nova Scotia and New Brunswick to the Rocky Mountains and north to Lat. 60°. It is exclusively a forest plant. Near Emerson, Manitoba. (*Burgess.*)

Var. **arguta,** Torrey.

A. arguta, Nutt. in Torr. & Gray, Fl. I., 36. Macoun's Cat., No. 73.

This is the British Columbian form, and extends in rich woods from Washington Territory to Alaska. It is much taller and stouter than the eastern form.

14. CIMICIFUGA, Linn. (SNAKEROOT.)

(75.) **C. racemosa,** Nutt. Black Snakeroot.

Actæa racemosa, Linn. Hook. Fl. I., 27.

Rich woods, Cayuga, Grand River, Ont. (*Maclagan.*) Norfolk Co., Ont. (*Dr. Nichol.*) Apparently rare in the southwestern part of Ontario.

Doubtful Species.

(75 *b.*) **C. elata,** Nutt.

Actæa cimicifuga. Hook. Fl. I., 26.

This species is mentioned in Hooker, on the authority of Pursh. We know nothing of it.

15. HYDRASTIS, Linn. (YELLOW ROOT.)

(76.) **H. Canadensis,** Linn. Yellow Puccoon.

Rich, shady woods. Mirvin's Woods, Prescott, Ont. (*Billings.*)

Malden, Ont. (*Maclayan.*) Township of Williams, Ont. (*Saunders.*) County of Norfolk, Ont. (*Dr. Nichol.*) It seems wholly confined to the western peninsula of Ontario.

16. PŒONIA, Linn. (PEONY.)

(77.) **P. Brownii,** Dougl. Western Peony.

P. Californica, Nutt. in Torr. & Gray Fl. I., 41.

Near the confines of perpetual snow, on the sub-alpine range of Mount Hood, Northwest Coast, 1826. (*Douglas.*) Vancouver Island. (*Bot. of California,* I., 13.)

II. MAGNOLIACEÆ. Magnolia Family.

17. LIRIODENDRON, Linn. (TULIP TREE.)

(78.) **L. Tulipifera,** Linn. White-wood.

In rich soil throughout the western peninsula of Ontario, from Hamilton (*Logie*) to the Township of Tuckersmith, Huron Co. (*Gibson.*) A noble tree in the thick forest west of St. Thomas, and a beautiful object when covered with its large, tulip-shaped flowers after the middle of June. Cultivated in Prince Edward Co. Flowers freely.

18. MAGNOLIA, Linn. (MAGNOLIA.)

(79.) **M. acuminata,** Linn. Cucumber tree.

At the Falls of Niagara. (*Provancher.*) This tree is also introduced in Prince Edward County, Ont., and flowers regularly.

III. ANONACEÆ. Custard Apple Family.

19. ASIMINA, Adans. (AMERICAN PAPAW.)

(80.) **A. triloba,** Dunal. Common Papaw.

Porcelia triloba, Persoon. Pursh, 383.
Uvaria triloba, Torr. & Gray, Fl. I., 45.

Rich low woods near the railway below Queenston Heights. Very

abundant on Point Pelee and in the townships bordering Lake Erie, between that point and Amherstburgh. Doubtless not rare along Lake Erie, but not reported. (*Macoun.*)

IV. MENISPERMACEÆ. Moonseed Family.

20. MENISPERMUM, Linn. (MOONSEED.)

(81.) **M. Canadense,** Linn. Canada Moonseed.

Low, rich woods along streams. Ile Jésus, Montreal. (*Brunet.*) Ottawa Co., Q. (*McGill Coll. Herb.*) Abundant in Ontario. (*Macoun.*) Near Emerson, Man. (*Dawson.*) Lake Winnipeg. (*Bourgeau.*)

V. BERBERIDACEÆ. Barberry Family.

21. BERBERIS, Linn. (BARBERRY.)

(82.) **B. vulgaris,** Linn. Common Barberry.

Escaped from gardens. New Brunswick. (*Fowler's Cat.*) Newfoundland. (*Morrison.*) Point Levis, near Quebec. (*Brunet.*) Vicinity of Hamilton, Ont. (*Logie.*) Borders of the Oak Hill Pond, Hastings County, Ont. (*Macoun.*)

(83.) **B. repens,** Lindl. Rocky Mountain Grape.

B. Aquifolium and *B. nervosa*, Pursh, 219.
B. Aquifolium, Pursh. Dawson Bound. Rep., 352.

This is the Rocky Mountain species, and has been found at the east side of the Rocky Mountains, in the Kootanie Pass. (*Dawson.*) Abundant on the mainland of British Columbia, and extending north to Stuart's Lake, Lat. 55°. (*Macoun.*)

(84.) **B. Aquifolium,** Pursh. 4. Oregon Grape.

B. pinnata, Ker. Hook. Fl. I., 28.
B. Aquifolium, vars. β. & γ., Torr. & Gray, Fl. I., 50.

Near to the west coast Lat. 40°–49°. (*Menzies.*) Nootka. (*Nelson.*) Abundant in the vicinity of Victoria, Vancouver Island and up the Fraser as far as Yale. (*Macoun.*)

(85.) **B. nervosa,** Pursh.

Common in shady pine forests on the coast of the Pacific, having the same range, from north to south as *B. Aquifolium*, but it is not found

east of the forests on the coast. (*Douglas.*) On Cedar Hill a few miles from Victoria, Vancouver Island, 1875 ; also in thickets on the foot hills at Yale. (*Macoun.*)

22. CAULOPHYLLUM, Michx. (BLUE COHOSH.)

(86.) **C. thalictroides,** Michx. Papoose root.

Leontice thalictroides, L. Hook. Fl. I., 29.

Gilmour's Woods in the vicinity of Quebec. (*Brunet.*) Vicinity of Montreal. (*McGill Coll. Herb.*) Found at Nashwaaks, N.B., 1881. (*Moser.*) Low, rich woods throughout Ontario as far west as Owen Sound. (*Macoun.*)

23. JEFFERSONIA, Barton. (TWIN LEAF.)

(87.) **J. diphylla,** Persoon. Rheumatism Root.

J. Bartonis. Michx. Fl. I., 237.

Woods and fence corners in rich soil. Rare, Point Peter, and near Consecon, Prince Edward Co., Ont. (*Macoun.*) Vicinity of Napanee, Ont. (*Rev. J. Scott.*) Banks of the Thames and at Cove near London, Ont. (*Saunders.*)

24. PODOPHYLLUM, Linn. (MANDRAKE.)

(88.) **P. peltatum,** Linn. May apple.

Abundant in rich soil in open woods throughout Ontario. (*Macoun.*) Montreal Mountain. (*Brunet.*)

25. ACHLYS, Hook. (MAY APPLE.)

(89.) **A. triphylla,** DC. Western May-apple.

Northwest coast of America. (*Menzies.*) Quite common in rich soil near Victoria, Vancouver Island, 1875. (*Macoun.*)

26. VANCOUVERIA, Morr. & Decais. (BARREN-WORT)

(90.) **V. hexandra,** Morr. & Decais. Barren-wort.

Epimedium hexandrum, Hook. Fl. I., 30.

Northwest coast of America. (*Menzies.*) Vancouver Island. (***Bot. of California,*** **I., 15.**)

VI. NYMPHÆACEÆ. Water-lily Family.

27. BRASENIA, Schreber. (WATER-SHIELD.)

(91.) **B. peltata,** Pursh.

Hydropeltis purpurea, Michx. Hook. Fl. I., 31.

Rocky Lake, N.S. (*Lawson.*) Grand Lake, St. Stephen, Fredericton, N. B. (*Vroom, Hay.*) Point St. Charles, Montreal. (*Brunet.*) Abundant in lakes and ponds, River Rouge, Q. (*D'Urban.*) Abundant in lakes and slow streams throughout the northern counties of Ontario; Rainy Lake, andLake of the Woods.

28. NELUMBIUM, Juss. (NELUMBO.)

92.) **N. luteum,** Willd. Water Chinquepin.

Cyamus pentapetalus, Pursh., 378.

Reported from Canadian waters in the Detroit River and near the mouth of the Welland Canal. Should be looked for by collectors.

29. NYMPHÆA, Tourn. (WATER-NYMPH.)

(93.) **N. tuberosa,** Paine. Tuber-bearing Water-lily.

Found in all the marshes along the Bay of Quinte, and abundant in muddy or marshy flats along Lake Ontario, from Presqu' Ile eastward. Without doubt this is the Water Lily of Burlington Bay, and of the marshes along Lakes Erie and Huron. It has been reported from London, Ont. (*Burgess*), and Ottawa. (*Fletcher.*) It is easily distinguished from *N. odorata* by its scentlesss flowers and tuber-bearing rhizomes. This is really the Water-lily of the Great Lakes as the true *N. odorata* seems to be confined to the northern waters, both lakes and rivers.

(94.) **N. odorata,** Ait. Sweet-scented Water-lily.

M. alba, Walt. Michx. Fl. I., 311.

Vicinity of Halifax and Pictou, Nova Scotia. (*Lawson & McKay.*) Ponds and lakes, St. John's County; Grand Lake, Queen's County, N.B. (*Fowler's Cat.*) Abundant throughout Quebec and Ontario and extending westward to the Lake of the Woods.

Var. **minor,** Sims. Lesser Water-lily.

N. odorata, var. *rosea*. Pursh, 369.
N. minor, DC. Hook. Fl. I., 32.

In a small lake southeast of Marmora Village, Hastings, Co., Ont.; South Lake, Township of Snowdon, Peterboro' Co., Ont. Rare. Easily known by its very small flowers and leaves.

30. NUPHAR, Smith. (YELLOW POND-LILY.)

(95.) **N. advena,** Ait. Common Yellow Water-lily.

Nymphæa advena, Michx. Fl. I., 311.
Nuphar Americana, Provancher, Fl. Can., 28.

Very abundant in ponds, ditches and rivers from Nova Scotia and New Brunswick, through Quebec and Ontario and westward by the forest country to the Rocky Mountains, also on the Athabasca River north of Lat. 57°. Caribou, Labrador. (*Butler.*) West Coast of Newfoundland. (*J. Bell.*)

(96.) **N. polysepalum,** Engelm. Western Pond-lily.

Swamp Creek, on the height of land between the Fraser and McLeod's River, northern British Columbia, 1875. (*Macoun.*) Lakes near Ilgatcho Lake, B.C. (*Dawson.*)

(97. **N. luteum,** Smith. Yellow Pond-lily.

Found during the first journey of Sir John Franklin, in the wooded country Lat. 54°–64°. (*Richardson.*) In the summer of 1881, Dr. Robert Bell gathered a few specimens which I refer to this species in Lake Wabatongwashene, north of Lake Superior. Brome Lake, Eastern Townships, Q. (*McGill Coll. Herb.*) Sitka. (*Rothr. Alaska.*)

Var. —— (?) Fletcher's Fl. Ott.

This form, found in the Ottawa River, near Ottawa city, Mr. Fletcher, after a careful examination of his specimens, and particularly the fruit, came to the conclusion was "merely a hybrid between *N. advena* and *N. Kalmiana.*" To decide the question he sent both living and dried specimens to Professor R. Casparry, Director of the Botanic Gardens, Konigsberg, the highest authority on *Nuphar*, whose answer was as follows: "I have not the slightest doubt but that your *Nuphar* is *N. advena*+*Kalmiana.* It is intermediate between the two, and what is decisive is this—its pollen is very bad; no less than 95 per cent. of the grains in the specimens sent had no fovilla. *N. advena* and *Kalmiana*

both have very good pollen." From the above Mr. Fletcher is inclined to believe that all our notices of *N. luteum* refer to similar hybrids between these species, and I see no reason to doubt his conclusions; but it is of the utmost importance that all forms of *Nuphar* should be carefully collected.

(98.) **N. pumilum,** Smith. Small Yellow Water-lily.

Nymphæa lutea, var. *Kalmiana.* Michx. Fl. I., 311.
Nuphar Kalmiana. Ait. Pursh, 369.
Nuphar lutea var. *Kalmiana.* Torr. & Gray, Fl. I., 58.
Nuphar luteum, var. *pumilum.* Gray's Manual, 57. Macoun's Cat. No. 96.

Newfoundland. (*Morrison.*) In water, Woodstock, N.B. (*Fowler's Cat.*) In the Matapedia River, below Amqui Station, Q. (*Macoun.*) Saguenay River and Lake St. John, Q. (*Brunet.*) Lakes and ponds, Rivière du Loup, Q. (*Thomas.*) Nation River railway crossing, Ont. (*Billings.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) North shore of Lake Superior. (*Agassiz.*) Black Creek, Hastings Co., Ont.; North River, Crow and Belmont Lakes, Peterboro' Co., Ont.; east shore of Rainy Lake. Rather rare. (*Macoun.*) River Saskatchewan. (*Bourgeau.*)

VII. SARRACENIACEÆ. Pitcher-plants.

31. SARRACENIA, Tourn. (SIDE-SADDLE FLOWER.)

(99.) **S. purpurea,** Linn. Pitcher-plant.

Very common in peat bogs and tamarac swamps from Labrador, Newfoundland and Nova Scotia to the Rocky Mountains. North to Bear Lake. (*Richardson.*)

Var. **heterophylla,** Torrey.

S. heterophylla. Eaton, Manual, 4 ed., 447.

In a peat bog near Ottawa. (*Fletcher.*) This variety seems to be scarcely constant.

VIII. PAPAVERACEÆ. Poppy Family.

32. PAPAVER, Linn. (POPPY.)

(100.) **P. somniferum,** Linn. Common Poppy.

Introduced in gardens. Spontaneous in gardens in New Brunswick.

(*Fowler's Cat.*) Around dwellings, in some places escaped, Nova Scotia. (*Lawson.*) In waste places at Ottawa. (*Fletcher Fl. Ott.*) Toronto. (*Dr. Croft.*) Near Goderich, Ont. (*Gibson.*) Frequent in old gardens in Prince Edward, Hastings and Northumberland counties, Ont.

(101). **P. Rhœas,** Linn.

Corn field in vicinity of Ottawa. (*Fletcher Fl. Ott.*) Escaped from cultivation.

(102.) **P. nudicaule,** Linn. Arctic Poppy.

P. alpinum, Linn. Hook. Arct. Pl., 225.

Barren grounds from Lat. 64° to the Arctic Sea, in Lat. 69°. (*Richardson.*) Everywhere upon the shore of the Arctic Sea throughout the whole breadth of the continent, and in the islands. (*Parry, Franklin.*) Labrador. (*Morrison.*) Upon the Rocky Mountains, at a great elevation, Lat. 52°–55°. (*Drummond.*) S. Kootanie Pass, near the 49th parallel. (*Dawson.*) Greenland. (*Hook. Arct. Pl.*)

33. PLATYSTIGMA, Benth.

(103.) **P. Oreganum,** Benth.

Meconella Oregana. Nutt. Torr. & Gray Fl. I., 64. Macoun's Cat., No. 112.

Common on the grassy slopes of Cedar Hill and other similar localities near Victoria, Vancouver Island, 1875.

34. SANGUINARIA, Linn. (BLOOD-ROOT.)

(104.) **S. Canadensis,** Linn. Blood-root.

Pictou and Truro, Nova Scotia. (*Lawson.*) York County, Keswick Ridge, N.B. Said to be common at intervales above Fredericton, N.B.; also on the Matapedia, Q. (*Fowler's Cat.*) Common from Rivière du Loup, Q. (*Thomas.*) Westward throughout the western part of Quebec and Ontario. Found at one locality in Pembina Mountain, Man. (*Dawson.*)

35. CHELIDONIUM, Linn. (CELANDINE.)

(105.) **C. majus,** Linn. Celandine.

Introduced. A garden weed at Fredericton, N. B. (*Fowler's Cat.*)

St. Foy's Road, Q., Three Rivers, Q. (*Brunet.*) Dosett's Woods, near Prescott, Ont. (*Billings.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Montreal Mountain. (*Maclagan.*) Mountain side near Hamilton, Ont., (*Buchan.*) Not uncommon at London, Ont. (*Saunders.*) Dundas, Ont. (*Dr. Ellis.*) Roadsides Brighton, Picton, Belleville, Kingston, and around the Carrying Place, Bay of Quinte, Ont.

IX. FUMARIACEÆ. Fumitory Family.

36. ADLUMIA, Raf. (CLIMBING FUMITORY.)

(106.) **A. cirrhosa,** Raf. Cypress Vine.

Corydalis fungosa. Pursh, 463.
Fumaria recta. Michx. Fl. II., 51.

A sport in gardens at St. Stephen, N. B. Introduced? (*Vroom.*) Rivière du Loup, rare. (*Thomas.*) Temiscouata Portage, Q. (*Maclagan.*) Vicinity of Kingston, Ont. (*Brunet.*) Vicinity of Ottawa, very abundant in rocky woods. (*Fletcher Fl. Ott.*) Hamilton, Ont., rare. (*Logie.*) Gore Bay, Georgian Bay. (*J. Bell.*) Climbing high over bushes and small trees in burnt woods along the River Trent, Seymour West, Ont.; abundant in woods east of Belleville, Ont.; also at Owen Sound, in burnt woods. Very often cultivated for ornament, and hence often considered an introduced flower.

37. DICENTRA, Bork. (DUTCHMAN'S BREECHES.)

(107.) **D. cucullaria,** DC. Dutchman's Breeches.

Fumaria Cucullaria, Michx. Fl. II., 51.
Corydalis Cucullaria, Pursh, 462.

Pictou, N. S. (*McKay.*) Appearing in the early spring in rich woods, New Brunswick. Rather rare. (*Fowler's Cat.*) From the Bay of Chaleur throughout Quebec and Ontario to Georgian Bay in rich woods.

(108.) **D. Canadensis,** DC. Squirrel Corn.

Corydalis formosa, Pursh, 462, in part.
Corydalis Canadensis, Goldie. Edinb. Phil. Journ. VI., 330.
Dicentra eximia, var. β., Hook. Fl. I., 35. Macoun's Cat., No. 105.

Truro, N.S. (*Lawson.*) St. Anselm and St. Therese, Q. (*Brunet.*) Mirivin's Woods and other localities, Prescott, Ont. (*Billings.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Mountain side west of

Hamilton, Ont. (*Logie.*) Vicinity of Barrie, Ont. (*Spotten.*) Navy Island, Niagara River. (*Maclagan.*) Frequent in rich, rocky woods, Belleville, Picton, Brighton, Owen Sound and London, Ont.

(109.) **D. formosa,** DC.

D. eximia, Hook. Fl. I., 35.

D. saccata, Nutt. Torr. & Gray, Fl. I., 67.

Nootka Sound. (*Menzies.*) In rich woods a little above New Westminster, B. C. *Dicentra eximia* was cited in Hooker's Flora Boreali Americana as growing at Montreal, but he referred to *D. Canadensis,* and Brunet's plant is very likely the same.

38. CORYDALIS, Vent. (CORYDALIS.)

(110.) **C. glauca,** Pursh. Pale Corydalis.

Fumaria sempervirens, Michx. Fl. II., 51.

Corydalis sempervirens. Richards. in Frankl. Journ., 16.

Windsor, N. S. (*How.*) Northwest Arm, Halifax, and Pictou, N. S. (*Lawson.*) Common throughout Quebec and Ontario and extending to the Rocky Mountains, especially in rocky districts. Only detected once in British Columbia, at Yale, 1875. (*Macoun.*) North to Lat. 64°. (*Richardson.*) Point Barrow to Mackenzie River. (*Pullen.*)

(111.) **C. aurea,** Willd. Golden Corydalis.

Rocky woods along the Restigouche River, Q. (*Brunet.*) Saguenay River and North to Lake St. John, Q. (*Provancher.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Maitland Valley, Huron Co., Ont. (*Gibson.*) Cockburn Island, Macleod's Harbor, Georgian Bay. (*J. Bell.*) North Shore of Lake Superior. (*Agassiz.*) North to Lat. 64°. (*Richardson.*) Quite common in woods after the fire runs through them and on gravelly banks of rivers. Rocky banks and sandy fields, Seymour, Ont.; banks of the Trent and Moira Rivers, Ont.; Michipicotin Island and Dawson Route, Lake Superior; Manitoba Lake, Man.; Fort Edmonton, N.W.T.; and across the wooded country to Dunvegan, on Peace River. (*Macoun.*)

Var. **occidentalis,** Gray.

This variety occurs on the plains a little east of the Rocky Mountains, from the Hand Hills southward to the forty-ninth parallel. In British Columbia it is found on Vancouver Island and in numerous places up the Fraser to Stuart Lake.

(112.) **C. flavula,** DC. Yellow Corydalis.

Very abundant around the stone quarry on the north end of Pelee Island; also on Point Pelee, shore of Lake Erie. Apparently confined to the southwest of Ontario.

Doubtful Species.

(112 *b.*) **C. Scouleri,** Hook., has been collected in Washington Territory, and may occur in Southern British Columbia.

(112 *c.*) **C. pauciflora,** Persoon, occurs in Alaska at Norton Sound, and may possibly be found in the northern part of British Columbia.

39. FUMARIA, Linn. (FUMITORY.)

(113.) **F. officinalis,** Linn. Common Fumitory.

Introduced from Europe. Escaped from ballast in a few places. Buctouche, St. Johns, &c., N. B. (*Fowler's Cat.*) Quebec. (*Brunet.*) Burlington Beach, Hamilton, Ont. (*Logie.*) Grounds of Queen's College, Kingston, and as a weed in gardens, Prince Edward Co., Ont. (*Macoun.*)

X. CRUCIFERÆ. Mustard Family.

40. NASTURTIUM, R. Br. (WATER-CRESS.)

(114.) **N. officinale,** R. Br. Water-cress.

Sisymbrium Nasturtium. Pursh, 440.

Windsor, Newport and Truro, N.S. (*How.*) In the vicinity of Ottawa. (*Fletcher Fl. Ott.*) In a creek half a mile west of London, Ont. (*Saunders.*) Found at Galt, Ont. (*Logie.*) Rivulets and in springs, Castleton, Ont. Small brooks on Rice Lake Plains, Ont. Very abundant at Campbellford and in nearly all the small brooks in the Townships of Seymour, Brighton, Percy and Murray, Northumberland County, Ont. Also abundant at Niagara, above the Falls. Ditches at Picton and Owen Sound, Ont. (*Macoun.*)

(115.) **N. palustre,** DC. Marsh-cress.

Sisymbrium palustre, Linn. Pursh, 440.
Camelina Barbarœfolia, DC. Hook. Fl. I., 65.

In water and wet places. Common along the St. John River and its tributaries. (*Fowler's Cat.*) Borders of rivulets near Lotbinière, Q.

(*Brunet.*) Vicinity of Montreal. (*McGill Coll. Herb.*) Common in moist places at Prescott, Ont. (*Billings.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Rivière du Loup, Q.; not common. (*Thomas.*) Kingston, St. Catharines, Cayuga and Malden, Ont. (*Maclagan.*) The Dawson Route, and the second crossing of the Souris, Man. (*Burgess*) Goulais Point, on Lake Superior; north end of Lake Winnipeg; Nelson River to York Factory and Echimamish River to Oxford House. (*R. Bell.*) Winnipeg and Northwest Angle Lake of the Woods. (*Dawson.*) Very common along the borders of streams throughout the prairie region, as well as the margins of ponds. (*Macoun.*) Eschscholtz Bay, Ounalashka; and Youcon River. (*Roth. Alask.*) Greenland. (*Hook. Arct. Pl.*)

Var. **hispidum,** Fisch & Mey.

Nasturtium hispidum, DC. Torr. & Gray. Fl. I., 74. Macoun's Cat., No. 117.

Vicinity of Ottawa. (*Fletcher Fl. Ott.*) In the neighborhood of London, Ont. (*Burgess.*) Low, wet ground about New Westminster, B.C. (*Macoun.*)

(116.) **N. amphibium,** R. Br.

Sisymbrium amphibium, Linn. Pursh. 440.

In watery places, about Montreal and Lake Huron. (*Hooker.*) Gregory's Creek, near Montreal, 1821. (*Holmes.*) Beauharnois Co., Q. (*McGill Coll. Herb.*) In ditches at Ottawa. In ditches along the railway west of Shannonville, also west of Belleville, Ont.; ditches at Fort William, Lake Superior, 1869. (*Macoun.*) Dartmouth River, Gaspé, Q.; L'Orignal, Ont. (*J. Bell.*)

(117.) **N. trachycarpum,** Gray.

Very abundant on the Cypress Hills, N. W. T., in dried up pools; also in the bed of Maple and other Creeks north of the Cypress Hills, 1880. (*Macoun.*)

(118.) **N. curvisiliqua,** Nutt.

Sisymbrium curvisiliqua, Hook. Fl. I., 61.
N. cernuum & polymorphum, Nutt. Torr. & Gray, Fl. I., 74.

Common on the North-west Coast as far north as Lat. 48° in sandy soils, near streams. (*Douglas.*) Along the Fraser a short distance above New Westminster, B.C., 1875. (*Macoun.*) Near Yale. B.C. (*Hill.*)

(119.) **N. lacustre,** Gray. River-cress.

N. natans, Hook. Fl. I., 39.
N. natans, var. *Americanum*, Gray. Torr. & Gray Fl. I., 75.
(?) *Cochlearia aquatica*, Eaton, Manual, 181.

In water near Montreal. (*Goldie.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Near Prescott, Ont. (*Provancher.*) Grand River and Malden, Ont. (*Maclagan.*) Ramsay, Ont. (*J. Bell.*) Very abundant in the still waters of the Trent between Heely's Falls and Hastings village, and in great profusion in the Trent at Meyersburg above the bridge over the Percy Creek, Ont.; also at Port Dover on Lake Erie. (*Macoun.*)

(120.) **N. Armoracia,** Fries. Horse Radish.

Armoracia rusticana, Rupp. Wood., Bot. & Fl., 41.

Introduced. Wastes near gardens, Quebec. (*Brunet.*) Not uncommon near London, Ont. (*Burgess.*) Waste places where rubbish is deposited in and around Belleville, Ont.; Canada Southern Railway near Amherstburgh, Ont., and at Niagara Falls. (*Macoun.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*)

41. DENTARIA, Linn. (PEPPER-ROOT.)

(121.) **D. diphylla,** Michx. Krinkle Root.

Pictou, N.S. (*McKay.*) Kent Co., and near Fredericton, N.B. (*Fowler's Cat.*) Bathurst, N.B. (*McGill Coll. Herb.*) Rivière du Loup, Q. (*Thomas.*) Throughout Quebec and Ontario to Lake Superior.

(122.) **D. laciniata,** Muhl. Purple-flowered Tooth-wort.

Low grounds of the river St. Francis, Q., rare. (*Brunet.*) Beechwood, near Ottawa. (*Fletcher Fl. Ott.*) Common in rich woods near London, Ont. (*Burgess.*) Mountain west of Hamilton, Ont. (*Logie.*) Pentanguishene, Ont. (*Richardson.*) Chippewa, Navy Island, and Malden, Ont. *Maclagan.* Ameliasburgh, P. E. County, Ont., and near Amherstburgh, Lake Erie. (*Macoun.*)

(123.) **D. tenella,** Pursh. 439.

D. tenuifolia, Hook. Fl. I., 46.

Northward to Vancouver Island and Lower Fraser River, B. C. (*Lyall.*) In low rich ground, vicinity of Victoria, Vancouver Island. (*Macoun.*)

Doubtful Species.

C. heterophylla is reported from Hamilton by Mr. Buchan, Principal of Trinity College, Toronto, and **D. maxima,** from Galt, by

Judge Logie, but as both these species have been included in *D. laciniata*, I consider the above references to apply to it, No. 128 of my Catalogue (1878) refers to the same polymorphous species.

42. CARDAMINE, Linn. (BITTER-CRESS.)

(124.) **C. rhomboidea,** DC. Spring-cress.

Arabis rhomboidea, Pers. Pursh., 437.

C. rotundifolia, var. *α.*, Torr. & Gray, Fl. I., 83.

Pictou and Truro, N. S. (*McKay & Lawson.*) Wet meadow at Stinson's Saw Mill on the Moira near Belleville; also in a wet boggy wood at Amherstburgh, Lake Erie. (*Macoun.*) Wet places, common at London, Ont. (*Burgess.*) Galt, Ont. (*Miss Crooks.*) Malden, Ont. (*Maclagan.*)

(125.) **C. rotundifolia,** Michx. Mountain Water-cress.

C. rotundifolia var. *γ.*, Torr. & Gray, Fl. I., 83.

In a piece of rich ground within the limits of Belleville, Ont. (*Macoun.*) In a springy wood at Billings Bridge, near Ottawa. (*Fletcher.*)

Var. **purpurea,** Torr.

C. rotundifolia, Michx. Hook. Fl. I., 44.

C. rotundifolia var. *β.* Torr. & Gray, Fl. I., 83.

Beauharnois Co., Q.; vicinity of Port Colborne, Ont. (*McGill Coll. Herb.*) Quite common in the vicinity of Hamilton, Ont. (*Logie.*) Wet, shady woods, London, Ont. (*Burgess.*) Rocky Mountains, Lat. 52°–57°, and thence to Hudson's Bay in the same latitude. (*Drummond.*)

NOTE.—Much confusion exists regarding the last three forms, and botanists are earnestly requested to collect all varieties wherever found. The roots are particularly desirable.

(126.) **C. bellidifolia,** Linn. Dwarf Water-cress.

Summits of the Rocky Mountains, Lat. 52°. (*Drummond.*) Throughout Arctic America sparingly. (*Richardson.*) Greenland. (*Hook. Arct. Fl.*)

(127.) **C. purpurea,** Cham. & Schlecht.

Possibly this species occurs in the northwestern part of British Columbia, as it is not rare in Alaska.

(128.) **C. angulata,** Hook. Fl. I., 44.

In rich soil around Victoria, Vancouver Island, and near New Westminster, B.C. This is the *C. paucisecta* of my Catalogue, 1878.

(129.) **C. pratensis,** Linn. Ladies' Smock.

C. digitata (?) Richards. Frankl. Journ., 15.

Wet, swampy meadows, Labrador. (*Brunet.*) St. Patrick, Charlotte Co., N. B. (*Vroom.*) Near Ottawa and Prescott Railway; vicinity of Prescott Junction; also three miles south of Ottawa. (*Billings.*) Wet meadows and swamps, Hastings County, Ont. (*Macoun.*) Near Millgrove, Ont. (*Logie.*) Shore along Lake Burwell, Lambton Co, Ont. (*Gibson.*) Whiskey Island, Georgian Bay. (*J. Bell.*) Hudson's Bay. (*Drummond.*) Throughout Arctic America. (*Richardson.*) East coast of Hudson's Bay. (*R. Bell.*) Greenland. (*Hook. Arct. Pl.*) The Canadian form is usually more slender than the European, and always white flowered.

(130.) **C. hirsuta,** Linn. Small Bitter-cress.

C. Pennsylvanica, Muhl. Pursh, 240.

Very abundant in rivulets and around springs, from Nova Scotia to the shores of the Arctic Sea and west to the Pacific. Eastern forms are readily distinguished from western ones, but are scarcely different enough to found a variety upon. A peculiar form grows on the height of land west of Lake Superior, which seems to connect the species with the following variety:—

Var. **sylvatica.** Gray, Manual, 67.

C. Virginica, Michx. Pursh, 439.
C. hirsuta, var. *Virginica,* Torr. & Gray Fl. I., 85.
C. sylvatica, Gray. Macoun's Cat., No. 126.

Dry rocks close to Shannonville station of the G. T. R., Ont., 1864. (*Macoun.*) Rocks at the Montmorenci Falls, Quebec. (*Brunet.*) Found at Galt, Ont. (*Logie.*) Jones' Falls, near Owen Sound. (*Maclagan.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*)

(131.) **C. oligosperma,** Nutt. Torr. & Gray Fl. I., 85.

In low, wet places around Victoria, Vancouver Island, 1875. Apparently common. (*Macoun.*)

43. ARABIS, Linn. (ROCK-CRESS.)

(132.) **A. lyrata,** Linn. Lyre-leaved Rock-cress.

Sisymbrium arabidoides. Hook. Fl. I., 63.

Common on the banks of rivers from the Eastern Provinces to Lat.

68°. (*Richardson.*) London and on the sands at Sarnia, Ont. (*Burgess.*) At the Whirlpool, Niagara Falls. (*Buchan.*) Abundant on Point Pelee, Lake Erie; from the Sault Ste. Marie to Pic River, Lake Superior; Lake of the Woods. McLeod's Lake, B. C. (*Macoun.*)

(133.) **A. petræa,** Lam. Rock-cress.

Cockburn Island, Lake Huron; York Factory. (*R. Bell.*) Crevices of rocks about five miles north of Michipicotin Harbor, Lake Superior. (*Macoun.*) Iltasyouco River, B. C. (*Dawson.*) Throughout Canada, extending westward to the Rocky Mountains, Lat. 55°–56°, and to the islands of the Polar Sea. (*Hooker Fl. I.*, 42.) Greenland. (*Hook. Arct. Pl.*)

(134.) **A. petræa,** var. **ambigua,** Regel.

A. ambigua, DC. Hook. Fl. I., 42.

Sandy and grassy places on the shores of the island of Ounalashka. (*Chamisso.*) In grassy places by brook sides near Yale, B. C., May 16th, 1875. It is desirable to obtain this in fruit, as there is some uncertainty about the position of the species.

(135.) **A. hirsuta,** Scop. Hairy Rock-cress.

Turritis ovata. Pursh, 438.
A. sagittata, DC. Buchan in Hamilton List. 12.
A. rupestris, Nutt. Torr. &. Gray Fl. I., 81.
Turritis patula, Pl. Bourgeau, 263 in part.
A. Gerardi, var. *borealis.* Macoun's Cat., 136.

Eel River, Restigouche; on rocks, Portland, N.B. (*Fowler's Cat.*) Collected in Madawaska, N.B. (*Hay.*) Common on river banks and amongst rocks from Gaspé to the Pacific, and north to Lat. 68°. Sitka and Ounalashka. (*Roth. Alask.*)

(136.) **A. Holboellii,** Hornem.

Turritis patula, Graham. Hook. Fl. I., 40.
(*?*) *Turritis mollis.* Hook. Fl. I., 40.
Streptanthus angustifolius et *virgatus,* Nutt. Torr. & Gray, Fl. I., 76.
(*?*) *Arabis sparsiflora,* Nutt. Torr. & Gray Fl. I., 81.

Very abundant in the sparsely wooded country from Manitoba westward, and through the valleys of the Rocky Mountains to British Columbia, being abundant both at Spence's Bridge and in the neighborhood of Victoria. A variety with very short stems and very hairy root-leaves, occurs in the Bow River Pass, also on the highest summits of the Rocky Mountains about Lat. 55°, according to Drummond. It extends north to Lat. 68° and shores of the Arctic Sea, Long. 107°–109°. (*Hooker.*) Greenland. (*Hook. Arct. Pl.*)

(137.) **A. retrofracta,** Graham.

Turritis retrofracta. Hook. Fl. I., 41.

Portage du Fort, Ottawa River. (*Gibson.*) Hudson's Bay to the Rocky Mountains, and from the Eastern Provinces to Lat. 68° at the Mackenzie River. (*Richardson.*) Sereno Watson, in his Botanical Index, unites this with the preceding, but I am led to agree with Hooker and consider it distinct, on account of its refracted flowers and pods and its different habitat.

(138.) **A. Drummondii,** Gray.

Turritis stricta, Grah. Hook. Fl. I., 40.
Turritis glabra var. *β.* Torr. & Gray Fl. I., 78.
(?) *Turritis spathulata*, Nutt. Torr. & Gray Fl. I., 78.

Eel River, Restigouche, N.B. (*Fowler's Cat.*) Prairies of the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Abundant on the rocky banks of streams throughout Quebec and Ontario, and westward to the Pacific, both on the prairie and in the forest. A fine species, and very distinct.

Var. **brachycarpa,** Gray.

Turritis brachycarpa, Torr. & Gray, Fl. I., 79.

On the sandy spit at the mouth of the Magdalen River, Gaspé, 1882. West of Touchwood Hills, N.W.T. (*Macoun.*)

(139.) **A. Lyallii,** Watson. Lyall's Tower-mustard.

A. Drummondii, var. *alpina*, Watson.
(?) *A. microphylla*, Nutt. Torr. & Gray, Fl. I., 32.

This species was found by Dr. G. M. Dawson in 1875, near the 49th parallel, at an attitude of 7,000 feet, and in the summer of 1881 he again found it near the same locality.

(140.) **A. perfoliata,** Lam. Smooth Tower-mustard.

Turritis glabra, Linn. Hook. Fl. I., 40.
Turritis macrocarpa, Nutt. Torr. & Gray, Fl. I., 78.

Montreal Mountain. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Amherstburgh and islands in Detroit River. (*Maclagan.*) Whiskey Island, Lake Huron. (*J. Bell.*) Counties of Hastings and Northumberland, Ont.; abundant at Port Stanley, Ont.; Owen Sound, Lake Huron; shore of Lake Superior and fifteen miles up the Kaministiqua. (*Macoun.*) Hudson's Bay to the Rocky Mountains and as far north as Lat. 64°. (*Richardson.*) Occasionally on the Great Plains; at Fort Assiniboine, on the Athabasca, west of Slave Lake; northern British Columbia. (*Macoun.*)

(141.) **A. lævigata,** Poir.

Turritis lævigata, Muhl. Pursh. 438.
A. heterophylla, Nutt. Torr. & Gray, Fl. I., 81.

Rocky woods along streams. North shore of the St. Lawrence above Quebec. (*Barnston.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Valley of the Rivière aux Sables, Lambton Co., Ont. (*Gibson.*) London, Ont. (*Burgess.*) Malden, Ont. (*Maclagan.*) On rocks, Heely's Falls, Seymour, Co. Northumberland ; on Gibson's Mountain, P. E. County ; Laurentian rocks, Shannonville ; Royston Park, Owen Sound ; and Port Stanley, Lake Erie, also Queenston Heights. (*Macoun.*)

(142.) **A. Canadensis,** Linn. Sickle Pod.

A. falcata, Michx. Fl. I., 31. Pursh. 437.

Dry rocky ravines and hill sides. Vicinity of Hamilton, Ont. (*Logie.*) Malden, Ont. (*Maclagan.*) Bosanquet Township, Lambton Co., Ont. (*Gibson.*) Vicinity of London and Toronto. (*Burgess.*) Laurentian rocks at Shannonville, Hastings Co. ; hill sides in rear of Picton, P. E. County ; woods near Fenelon Falls, Victoria Co. ; abundant in Talbot's Woods, near Port Stanley, and in the woods from Niagara Falls to Queenston, Ont. (*Macoun.*)

(143.) **A. alpina,** Linn. Mountain Cress.

In Labrador. (*Colmaster.*) Fortcau Bay, Labrador. (*Butler.*) Along the coast of the Gulf of St. Lawrence 13 miles below the mouth of Ste. Anne des Monts River ; up that stream about twenty miles from its mouth, and very abundant in a small brook descending from the northern face of Mount Albert, Shickshock Mountains, Gaspé, 1882. (*Macoun.*) Greenland. (*Hook. Arct. Pl.*)

(144.) **A. stricta,** Huds.

Labrador. (*Colmaster* vide *Pursh.*)

44. BARBAREA, R. Br. (WINTER-CRESS.)

(145.) **B. vulgaris,** R. Br. Yellow Rocket.

Four-mile House near Halifax, and Pictou, N. S. (*Lawson & McKay.*) A weed at Richibucto, N. B. (*Fowler's Cat.*) Vicinity of Quebec. (*Brunet*). Harbor Grace, Nfld. ; sea shore, Murray Bay, Q. ; Montreal Mountain. (*McGill Coll. Herb.*) On rocks along the Lovers' Walk, Ottawa. (*Fletcher.*)

The above references may principally apply to an introduced form.

Var. **arcuata,** Koch. Western Winter-cress.

Barbarea vulgaris, R. Br. Hook. Fl. I., 39.
B. præcox. R. Br. Macoun's Cat., No. 141.

Quite common in wet places around Victoria, Vancouver Island. (*Macoun.*) Dean's Inlet, B. C. (*Dawson.*) Sitka and Norton Sound. (*Roth. Alask.*)

Var. **stricta,** Regel. Common Winter-cress.

Barbarea præcox, R. Br. Hook. Fl. I., 39.

Mississagui Island, south side of St. Joseph's Island, Whiskey and Cockburn Islands, Lake Huron. (*J. Bell.*) Queenston Heights; Owen Sound Bay; Chicken Bay, east shore of Lake Huron; north shore of Lake Superior from the Sault Ste. Marie to Thunder Bay; shore of Red Deer Lake, Manitoba; Edmonton on the Saskatchewan; Peace River valley. (*Macoun.*) Banks of rivers; abundant from the eastern provinces to Lat. 68°. (*Drummond.*)

45. ERYSIMUM, Linn. (TREACLE-MUSTARD.)

(146.) **E. cheiranthoides,** Linn. Worm-seed Mustard.

Moist ground along streams, on dry ridges and prairies, in gardens and cultivated fields from the vicinity of Ottawa to the Pacific. (*Macoun.*) Throughout Canada, and in all the plains east of the Rocky Mountains to Lat. 67° on the Mackenzie. (*Hooker.*)

(147.) **E. asperum,** DC. Prairie Rocket.

A very prominent object on dry, gravelly soil throughout the prairie region. It extends northward about sixty miles beyond Carleton, on the Saskatchewan. (*Macoun.*)

(148.) **E. parviflorum,** Nutt.

E. lanceolatum, Hook. Fl. I., 64.
E. asperum var. *inconspicuum,* Wat. Macoun's Cat., 143 var.

Not so abundant as the preceding, but has been collected at Fort Ellice; west of Touchwood Hills; at Long Lake; Cypress Hills, near Fort Walsh; Hand Hills; and at Morley, N. W. T.; also on the dry hills between Spence's Bridge and Câche Creek, B. C. (*Macoun & Hill.*) On the Belly and Milk Rivers, N. W. T.; Nicoamen, B. C. (*Dawson.*)

(149.) **E. orientale,** R. Br.

Introduced with ballast. Ballast heaps, Richibucto. Apparently naturalized in New Brunswick. (*Fowler's Cat.*)

46. SISYMBRIUM, Linn. (HEDGE-MUSTARD.)

(150.) **S. officinale,** Scop. Hedge-mustard.

Erysimum officinale, Linn. Pursh, 436.

An introduced and unsightly weed found in all cities, towns and villages throughout Ontario and the eastern provinces.

(151.) **S. linifolium,** Nutt.

S. junceum, Hook. Fl. I., 61. Macoun's Cat., No. 146.

In some abundance along the Thompson River below Spence's Bridge, B. C., 1875. (*Macoun & Hill.*)

(152.) **S. sophioides,** Fisch. Hook. Fl. I., 61.

S. Sophia var. Richards. in Frankl. Journ., 16.

York Factory on Hudson's Bay; to the shores of the Arctic Sea, westward of the Mackenzie River. (*Hooker.*) Along Nelson River near York Factory. (*R. Bell.*) Lake Winnipeg. (*Back.*)

(153.) **S. Sophia,** Linn. Flaxweed.

Introduced from Europe. On the sand bar at the mouth of Magdalen River, Gaspé, 1882. (*Macoun.*) Borders of fences near Quebec. (*Brunet.*) Montreal. (*Maclagan & Holmes.*) East Street, Prescott, Ont. (*Billings.*)

(154.) **S. canescens,** Nutt. Tansy-mustard.

Cardamine (?) multifida, Pursh, 440.

S. Sophia, Pursh, 440; not Linn.

In the low grounds, Lat. 50°–60°. (*Richardson.*) Plentiful about the Saskatchewan and Red Rivers. (*Douglas.*) In the Rocky Mountains and about Fort Franklin, Lat. 66.° (*Drummond.*) Very common throughout the prairie region, and extending to Peace River. Common in the dry interior of British Columbia. *S. incisum,* Engelm. is included in the above references.

Var. **brachycarpum,** Torr. & Gray Fl. I., 92.

S. brachycarpum, Richards. in Frankl. Journ., 16. Hook. Fl. I., 62.

I take this to be the forest form and the one which is found both East and North. St. Helen's Island, Montreal. (*Maclagan.*) Whiskey Island, Lake Huron. (*J. Bell.*) Point Pelee, Lake Erie; Little Current, Georgian Bay. North shore of Lake Superior at the Pic River, and quite frequent in the mixed forest and prairie to the Rocky Mountains.

(155.) **S. incisum,** Engelm. var. **Hartwegianum,** Watson.

S. canescens, Benth. Pl. Bourgeau; 254 in part.

(*?*) *S. canescens,* var. *brevipes,* Torr. & Gray Fl. I., 92.

This species has been confounded with *S. canescens* until a recent date, and hence Bourgeau is found to include it with *S. canescens.* I have found this species to be the common form on the southern plains west of Moose Jaw Creek, N. W. T., and in the dry interior of British Columbia.

Var. **filipes,** Gray Fl. Fendl, 8.

This form gathered at Yale, B. C., is identical with one found by Lyall on the southern boundary of British Columbia. (*Macoun & Hill.*)

Collectors are requested to preserve complete specimens of the four forms mentioned above.

(156.) **S. acutangulum,** DC.

A native of southern Europe. Naturalized in California and brought from thence to the vicinity of New Westminster, British Columbia. This species is No. 145 of my catalogue.

(157.) **S. humile,** C. A. Meyer.

Rocky Mountains, Lat 52°–57°. (*Drummond.*) About the Mackenzie River, Lat. 60°–68°. (*Richardson.*)

(158.) **S. salsugineum,** Pall.

Turritis diffusa, Hook. Fl. I., 41.

Shores of the Arctic Sea. (*Richardson.*)

47. BRASSICA, Tourn. (TRUE MUSTARD.)

(159.) **B. Sinapistrum,** Boiss. Wild Mustard.

Sinapis arvensis, Linn. Torr. & Gray Fl. I., 99.

Introduced from Europe. A vile weed in cultivated fields and waste grounds from New Brunswick throughout Quebec and Ontario. Between Brighton and Toronto, on the line of the G. T. R.. many fields during June are quite yellow with the flowers of this pest. Its seeds retain the power of germination for a long time, and after it once gets a footing on the soil years must elapse before the ground is freed from them.

(160.) **B. alba,** Gray. White Mustard.

Sinapis alba, Linn. Gray, Manual I., Ed. 38.

Escaped from gardens in a few places in New Brunswick. (*Fowler's Cat.*) In a few localities around Ottawa. (*Fletcher Fl. Ott.*) In vicinity of Quebec. (*Brunet.*)

(161.) **B. nigra,** Koch.

Sinapis nigra, Linn. Torr. & Gray Fl. I., 99.

Introduced from Europe. Halifax and Cumberland Co., N. S. (*How.*) Rare near dwellings and on ballast. (*Fowler's Cat.*) Gardens and waste places, Quebec. (*Brunet.*) Streets of Prescott. (*Provancher.*) Around Ottawa. (*Fletcher Fl. Ott.*) In fields below Matane, Gaspé, Q. In old gardens and around barns and manure heaps in the Counties of Prince Edward and Hastings, and around Amherstburgh, Ont. (*Macoun.*)

(162.) **B. campestris,** Linn.

Introduced from Europe. Common in fields in Manitoba and around Winnipeg; also at Victoria, B. C.

48. CHEIRANTHUS, R. Br. (WALLFLOWER.)

(163.) **C. asper,** Cham. & Schlecht.

C. capitatus, Dougl. Hook. Fl. I., 38.
Erysimum grandiflorum, Nutt. Torr. & Gray, Fl. I., 96 and 667.

Common at Puget Sound. (*Douglas.*) To be looked for in the southern part of British Columbia.

(164.) **C. pygmæus,** DC. Dwarf Wallflower.

C. Pallasii, Pursh, 436. Hook. Fl. I., 38. Torr. & Gray, Fl. I., 71.
Hesperis pygmæa, Hook. Fl. I., 60.
Hesperis minima, Torr. & Gray, Fl. I., 90.
Hesperis Pallasii, Torr. & Gray, Fl. I., 666.

On the northwest coast of America. (*Pallas.*) Bear Lake and thence to the shores of the Arctic Sea. (*Richardson.*) Kotzebue Sound and Cape Lisburne. (*Roth. Alask.*) Greenland. (*Hook. Arct. Pl.*)

49. PARRYA, R. Br. (ARCTIC ROCKET.)

(165.) **P. nudicaulis,** Regel. Vars. **glabra** and **aspera,** Regel.

Cardamine articulata. Pursh, 439.
P. macrocarpa, R. Br. Hook. Fl. I., 47. Torr. & Gray Fl. I., 88.

Found during the second Arctic Land Expedition, and then only by

Capt. Sir John Franklin and Capt. Back, to the west of Mackenzie River. Frequent on the shores of Kotzebue Sound and the adjacent coast. (*Hooker.*)

(166.) **P. arctica,** R. Br. Arctic Parrya.

On the eastern Arctic Islands. (*Parry.*) Shores of the continent of Arctic America, eastward of the Mackenzie River. (*Richards.*)

(167.) **P. arenicola,** Hook.

Eutrema arenicola, Richards. Hook. Fl. I., 67. Torr. & Gray Fl. I., 112.

Deep sand upon the shores of the Arctic Sea, between Long. 107° and 150°. (*Richardson.*)

50. HESPERIS, Linn. (GARDEN ROCKET.)

(168.) **H. matronalis,** Linn. Sweet Rocket.

Montreal. (*McGill Coll. Herb.*) Shores of Lake Huron. (*Dr. Todd,* vide *Hooker.*) Spontaneous in many old gardens and along old fences in Prince Edward County and at Belleville, Ont. Hooker's reference to Lake Huron can only apply to a garden escape.

51. DRABA, Linn. (WHITLOW-GRASS.)

(169.) **D. alpina,** Linn. Alpine Whitlow-grass.

From Lat. 60° on the Rocky Mountains, to the shores of the Arctic Sea, and on the islands adjacent, where it principally abounds. (*Hooker.*) Rocky Mountains. (*Bourgeau.*) On limestone mountains in the Bow River Pass. (*Macoun.*) · Kotzebue Sound. (*Roth. Alask.*) Greenland. (*Hook. Arct. Pl.*)

Var. **hebecarpa,** Lindb. (Hairy-podded variety.)

D. alpina, var. *β.*, Hook. Fl. I., 50.

Summit of Stuart Lake Mountain, B. C., 1875; top of Mount Selwyn, Peace River Pass, Lat. 56°; Bow River Pass, Lat. 51°. (*Macoun.*) Summit Camp, Pine Pass, 2,850 feet, Lat. 55°. (*Dawson*). Greenland. (*Hook. Arct. Pl.*)

Var. **algida,** Regel.

D. algida, Adams. Hook. Fl. I., 50.
D. pauciflora, R. Br. Hook. Fl. I., 51.

Sea coast between the Mackenzie and Coppermine Rivers. (*Richardson.*) Melville Island. (*Sabine.*) Barrow River. (*Parry.*) West of

the Mackenzie along the coast. (*Simpson.*) Island of St. Lawrence. (*Rothr. Alask.*)

Var. **glacialis,** Dickie.

D. glacialis, Adams. Hook. Fl. I., 51. Macoun's Cat. No. 159.
D. oligosperma, Hook. Fl. I., 51.
D. densifolia, Nutt. Torr. & Gray, Fl. I., 104.

Rocks on the loftiest of the Rocky Mountains, Lat. 52°–57°. (*Drummond.*) Rare on the shores of the Arctic Sea; summit of a limestone hill, Mackenzie River, Lat. 68°. (*Richardson.*) Bow River Pass. (*Macoun.*) Summit of S. Kootanie Pass. (*Dawson.*) Cape Lisburne. Assistance Bay, and Garry Island. (*Rothr. Alask.*)

Var. (?) **micropetala,** Durand.

D. micropetala, Hook. Fl. I., 52.

Sea coast between the Mackenzie and Coppermine Rivers. (*Richardson.*)

Var. (?) **corymbosa,** Durand.

D. corymbosa, R. Br. Hook. Fl. I., 52.
D. alpina var. *b.,* Hook. Fl. I., 50.

Labrador. (*Brunet.*) Shores of the Arctic Sea. (*Capt. Ross.*) Greenland. (*Hook. Arct. Pl.*)

(170.) **D. stellata,** Jacq. Hook. Fl. I., 53.

Unalaschka and Kotzebue Sound. (*Torr. & Gray,* I., 105.)

Var. **nivalis,** Regel.

D. muricella, Wahl. Hook. Fl. I., 52. Macoun's Cat. No. 156.

Labrador. (*Colmaster.*) Arctic Shores of America. (*Parry.*) Wooded country, Lat. 54°–64°. (*Richardson.*) Stuart Lake Mountain, B. C. (*Macoun.*) Wainwright Inlet. (*Rothr. Alask.*)

Var. **hebecarpa,** DC. Hook. Fl. I., 53.

Arctic America. (*Richardson.*) Kotzebue Sound, Ounalashka, and Island of St. Lawrence. (*Rothr. Alask.*)

Var. **Johannis,** Regel.

? D. laripes, DC. Hook. Fl. I., 53.
D. stellata. Macoun's Cat. No. 160.

Rocky Mountains, Lat. 52°-57°. (*Drummond.*) Bow River Pass; top of Mount Selwyn, Peace River Pass; Stuart Lake Mountain, B.C. (*Macoun.*)

(171.) **D. hirta,** Linn. Hook. Fl. I., 52.

D. oblongata, R. Br. Hook. Fl. I., 52.

Arctic and subarctic America as well as upon the Rocky Mountains; frequent. Sea shores between the Mackenzie and Coppermine Rivers. (*Richardson.*) Igloolik and Barrow Rivers. (*Parry.*) Back's Great Fish River. (*Back.*) Greenland. (*Hook. Arct. Pl.*)

(172.) **D. rupestris,** R. Br. Hook. Fl. I., 53.

B. hirta, var. 4. Hook. in Parry's Second Voy., 336.

Rocky Mountains, in stony places, Lat. 52°–57°. (*Drummond.*) Greenland. (*Hook. Arct. Pl.*)

(173.) **D. androsacea,** Wahl.

D. Lapponica, Willd. Hook. Fl. I., 53.
D. hirta, var. 3, Hook. in Parry's Second Voy., 386.

Table-Topped Mountain, Gaspé, Q. (*O. D. Allen.*) Shores and islands of the Arctic Sea. (*Ross, Parry.*) Mellville Island. (*Torr. & Gray.*) Greenland. (*Hook. Arct. Pl.*)

(174.) **D. crassifolia,** Gray. Hook. Fl. I., 54.

Summits of the Rocky Mountains Lat. 52°–57°. (*Drummond.*)

(175.) **D. incana,** Linn. Hook. Fl. I., 54.

D. glabella, Richards. Hook. Fl. I., 54.

Labrador. (*Pursh.*) Vicinity of Montreal. (*Provancher.*) Churchill and Nelson Rivers. (*R. Bell.*) Point Wilkins, Lake Winnipegoosis. Bow River Pass, Rocky Mountains. (*Macoun.*) Margins of rivulets in the Rocky Mountains, Lat. 52°–57°. (*Drummond.*) Greenland. (*Hook. Arct. Pl.*)

Var. **confusa,** Poir. Torr. & Gray, Fl. I., 107.

D. confusa, Ehrh. Hook. Fl. I., 54.

Nashwaaksis, New Brunswick. (*Moser.*) Common along the Gaspé coast. (*Macoun.*) Rocky Mountains, from Lat. 52°; and northward in the plains, nearly to the mouth of the Mackenzie River. (*Drummond, Richardson.*) Bow River Pass, Rocky Mountains. (*Macoun.*)

Var. **borealis,** Torr. & Gray, Fl. I., 107.

D. borealis, DC. Hook. Fl. I., 55.
D. Unalaschkiana, DC. Hook. Fl. I., 55.

North-west coast of America. (*Menzies.*) Along the Nechacco River and numerous places along the Telegraph Trail between that river and Stuart Lake, B.C. (*Macoun.*) Eliguck Lake, B.C. (*Dawson.*) Garry, St. Lawrence and Ounalashka Island. (*Rothr. Alask.*)

(176.) **D. arabisans,** Michx. Fl. II., 28.

D. glabella, Pursh, 434. Hook. Fl. I., 54 in part.
D. Canadensis, Brunet. Pl. Can. I., 22.

Gaspé Basin and along the Gaspé coast from Cape Rosier to Little Métis. (*Macoun.*) Crevices of rocks at St. Joachim. Cape Tourment, Q. (*Brunet.*) Lake Champlain. (*Michaux.*) Near Fenelon Falls, Ont. (*Dr. Cowdry.*) North shore of Lake Superior. (*Agassiz.*)

(177.) **D. aurea,** Vahl. Hook. Fl. I., 55.

Alpine prairies of the Rocky Mountains. (*Drummond.*) Top of Stuart Lake Mountain, B. C.; Mount Selwyn, Peace River Pass. (*Macoun.*) Eliguck Lake, B. C. (*Dawson.*). Greenland. (*Hook. Arct. Pl.*)

(178.) **D. nemorosa,** Linn. var. *α.*, **leiocarpa,** Lindb.

D. lutea, Gilib. Hook. Fl. I., 55. Pl. Bourgeau, 254.

Low grounds from Lat. 56°–66°. (*Drummond.*) On dry sand hills and banks, Michipicotin, Lake Superior. Abundant in many places on the western plains, especially at Fort Ellice; Manitoba House, Lake Manitoba. (*Macoun.*) Cascade Mountains on Skagit River, B. C. (*Dawson.*)

Var. *β.*, **hebecarpa,** Lindb.

D. nemoralis, Ehrh. Hook. Fl. I., 55.
? D. muralis, Hook. Fl. I., 56.
D. lutea var. *longipes*, Hook. in Lon. Journ. Bot., 671.

About Montreal. (*Cleghorn.*) About Rainy Lake and in the Rocky Mountains. (*Drummond.*). North-west coast of America. (*Douglas.*) Quite common around Victoria, Vancouver Island; in profusion at Yale and along the Wagon road to Quesnel, B.C. (*Macoun.*) Dean's Harbor, B. C. (*Dawson.*)

(179.) **D. Caroliniana,** Walt. Torr. & Gray, Fl. I., 109.

D. hispidula, Michx, Fl. II., 28. Pursh, 433.
? Arabis reptans, Torr. & Gray, Fl. I., 83.

On limestone rocks, Ox Point near Belleville; also on rocks west of Albert College and at the Ferry House opposite Belleville; Grape Island and the Carrying Place at the head of the Bay of Quinte; also in a stone quarry near the Canada Southern Railroad station at Amherstburg, and on Pelee Point, Lake Erie. (*Macoun.*)

(180.) **D. hyperborea,** Desv.

Alyssum hyperboreum, Linn. Hook. Fl. I., 49.
Cochlearia spathulata, Schlecht. Hook. Fl. I., 57.

On the west coast of America. (*Pursh.*) Aleutian Islands of St. George and St. Paul, Lat. 56°–57.° (*Chamisso.*)

Var. **siliquosa,** Gray in Herb.

Cochlearia siliquosa, Schlecht. Hook. Fl. I., 57.

Rocky places in Ounalashka. (*Herb. Willd.*)

(181.) **D. verna,** Linn. Spring Whitlow Grass.

Erophila vulgaris, DC. Hook. Fl. I., 56.

Probably introduced from Europe. Fields and hill sides in the neighborhood of Quebec. (*Brunet.*) Cape Tourment, Q. (*Provancher.*)

52. COCHLEARIA, Tourn. (SCURVY-GRASS.)

(182.) **C. officinalis,** Linn. Officinal Scurvy-grass.

C. Grœnlandica, Linn. Torr. & Gray, Fl. I., 110.
C. fenestrata, R. Br. Hook. Fl. I., 57. Torr. & Gray, Fl. I., 109.
C. oblongifolia, DC. Hook. Fl. I., 56. Torr. & Gray, Fl., I., 109.

Labrador. (*Brunet.*) Islands of St. Lawrence and Ounalashka. (*Chamisso.*) Kotzebue Sound. (*Lay.*) Norton Sound to Point Barrow and Assistance Bay. (*Rothr. Alask.*) Arctic shores. Whale Islands. (*Parry.*) Coast to the westward of Mackenzie River. (*Franklin & Bach.*) Shores of the Arctic Sea. (*Ross.*) Greenland. (*Hook. Arct. Pl.*)

(183.) **C. Anglica,** Linn. English Scurvy-grass.

Shores of the Arctic Sea from east to west. Observatory Inlet. (*Scouler.*) Queen Charlotte Islands. (*Dawson.*) East of Mackenzie River and Greenland. (*Hook. Arct. Pl.*)

(184.) **C. Danica,** Linn. Danish Scurvy-grass.

Arctic Shores, North Somerset. (*Parry.*) Westward of Mackenzie River. (*Franklin & Back.*) Kotzebue Sound and Assistance Bay. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(185.) **C. tridactylites,** Banks.

Labrador. (*Banks.*) Cape Charles, Labrador. (*Brunet.*)

53. ALYSSUM, Tourn. (ALYSSUM.)

(186.) **A. calycinum,** Linn.

Abundant along roadsides near London, Ont. (*Burgess.*) Very abundant around Brock's Monument, Queenston Heights, Ont., 1882. (*Macoun.*)

54. VESICARIA, Lam. (BLADDER-POD.)

(187.) **V. Ludoviciana,** DC. Western Bladder-pod.

? *V. arctica,* Pl. Bourgeau, 254.

Abundant in the valley of the Qu'Appelle in sand about a mile above its junction with the Assiniboine; on hills west of Moose Mountain. and sand hills near Gull Lake, N.W.T. (*Macoun.*) Dry hillsides near Badger Creek, N.W.T.; Similkameen Valley, B. C. (*Dawson.*)

(188.) **V. arctica,** Richards. Arctic Bladder-pod.

V. arctica, var. *β.* Hook. Fl. I., 48.
V. arenosa, Richards. in Frankl. Journ., 26.

Island of Anticosti, Q. (*Shepherd in Torr. & Gray.*) Chiefly confined to the Arctic shores and islands eastward of the Mackenzie River; on a hill 700 feet high at Bear Lake River. (*Richardson.*) Greenland. (*Hook Arct. Pl.*)

(189.) **V. alpina,** Nutt. Alpine Bladder-pod.

Quite abundant on gravelly knolls on the top of the Cypress Hills, N.W.T. (*Macoun.*) Along Belly River. (*Dawson.*)

55. PHYSARIA, Nutt. (MOUNTAIN BLADDER-POD.)

(190.) **P. didymocarpa,** Gray.

Vesicaria didymocarpa. Hook. Fl. I., 49. Torr. & Gray, Fl. I., 102.

Growing in deep sand upon the Rocky Mountains, Lat. 52°–57°. (*Drummond.*) Rocky Mountains, near the 49th parallel, in gravel. (*Dawson.*) Rocky Mountains. (*Bourgeau.*) On shingle at the base of the mountain at the entrance to Bow River Pass. (*Macoun.*)

56. CAMELINA, Crantz. (FALSE FLAX.)

(191.) **C. sativa,** Crantz. False Flax.

Introduced from Europe. Found sparingly in cultivated fields and along railways from Nova Scotia to Manitoba and British Columbia.

57. BRAYA, Sternb. & Hoppe.

(192.) **B. alpina,** Sternb. & Hoppe., var. **Americana.**

Hook. Fl. I., 65. Torr. & Gray, Fl. I., 111.

Alpine rivulets among the Rocky Mountains, Lat. 52°–57°. (*Drummond*).

(*b.*) Var. **glabella,** Watson's Index.

B. glabella, Richards. Hook. Fl. I., 65. Torr. & Gray, Fl. I., 111.
Platypetalum purpurascens, R.Br. Hook. Fl. I., 66. Torr. & Gray, Fl. I., 111.
P. dubium, R. Br. Hook. Fl. I., 66. Torr. &. Gray, Fl. I., 111.
B. arctica, Hook. in Parry's Second Voy., 387.

Arctic America; on the Copper Mountains, and principally on the shores of the sea between the Mackenzie and Coppermine Rivers. (*Richardson.*) Arctic shores and islands of America. (*Ross.*) Melville Island. (*Sabine.*) Greenland. (*Hook. Arct. Pl.*)

(193.) **B. Eschscholtziana,** Benth. & Hook.

Oreas involucrata, Cham. Hook. Fl. I., 67.
Aphragmus Eschscholtzianus, Andrz. Torr. & Gray, Fl. I., 112.

Among loose stones, on the high alpine mountains of the island of Ounalashka. (*Chamisso.*) Will possibly be found in northern British Columbia.

(194.) **B. pilosa,** Hook. Fl. I., 65. Torr. & Gray, Fl. I., 111.

Found only on the shores of the Arctic Sea, at the mouth of the Mackenzie River, Lat. 70°. (*Richardson.*)

58. EUTREMA, R. Br.

(195.) **E. Edwardsii,** R. Br. Hook. Fl. I., 67. Torr. & Gray, Fl. I., 112.

Draba (?) lævigata, Cham. & Schlcht. Hook. Fl. I., 54. Torr. & Gray, Fl. I., 106,

Arctic sea shore and islands; coast eastward of the Coppermine River. (*Richardson, Back.*) Great Fish River. (*Back.*) Island of St. Lawrence. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

59. SUBULARIA, Linn. (AWL-WORT.)

(196.) **S. aquatica,** Linn. Gray, Manual, 73.

Found in about 3 feet of water, on sandy bottom in Vermilion Bay, on Eagle Lake, C. P. R., Dawson Route. Abundant, both in flower and fruit, Septr. 13, 1882. (*Fletcher.*)

60. CAPSELLA, Vent. (SHEPHERD'S PURSE.)

(197.) **C. Bursa-pastoris,** Mœnch. Gray, Manual, 73.

Thlaspi Bursa-pastoris, Linn. Pursh., 435.

An introduced weed that is found in profusion wherever there is cultivation from the Atlantic to the Pacific. South Greenland. (*Hook. Arct. Pl.*)

(198.) **C. divaricata,** Walp.

Hymenolobus divaricatus, Nutt. Torr. & Gray, Fl. I., 117.
H. erectus, Nutt. Macoun's Cat., No. 186.

Near Oregon Jack's, above Spence's Bridge. B.C., 1875.

61. THLASPI, Tourn. (PENNY-CRESS.)

(199.) **T. arvense,** Linn. Mithridate Mustard.

Naturalized from Europe. Abundant in many parts of Quebec; scarce in Ontario; but a real pest in Manitoba and around all the Hudson Bay Co. Posts in the North-west Territory. This weed has attracted much attention already in Manitoba.

(200.) **T. alpestre,** Linn. Hook. Fl. I., 58. Torr. & Gray, Fl. I., 114.

T. montanum, Hook. Fl. I., 58. Torr. & Gray, Fl. I., 113.
T. cochleariforme, DC. Hook. Fl. I., 58. Torr. & Gray, Fl. I., 113.

Shores of the Arctic Sea to the westward and eastward of the Mackenzie River. (*Franklin & Back.*)

62. SMELOWSKIA, C. A. Meyer.

(201.) **S. calycina,** C. A. Meyer.

Hutchinsia calycina, Desv. Hook. Fl. I., 58. Torr. & Gray Fl. I., 114.

On the Rocky Mountains, Lat. 52°–57°. (*Drummond.*) Rocky Mountains, in the Bow River Pass. (*Bourgeau.*) Summit of South Kootanie Pass. (*Dawson.*) Kotzebue Sound and Cape Kurzenstern. (*Rothr. Alask.*)

63. LEPIDIUM, Linn. (PEPPER-WORT.)

(202.) **L. sativum,** Linn. Pepper-grass.

Escaped from cultivation. On waste heaps, Ste. Anne des Monts, Gaspé, Q. Frequent close to old Fort Garry, Winnipeg, Man.

(203.) **L. ruderale,** Linn.

Introduced. Windsor and Sidney Bar, N.S. (*How.*) Spreading from ballast heaps, New Brunswick. (*Fowler's Cat.*) Roadsides Hamilton, Ont. (*Buchan.*)

(204.) **L. campestre,** R. Br. Field Pepper-grass.

Introduced. Vicinity of Hamilton, Ont. (*Buchan.*) Clifton, near Niagara Falls. (*Macoun.*)

(205.) **L. Menziesii,** DC. Western Pepper-grass.

L. Californicum, Torr. & Gray, Fl. I., 115.

Common on rocks bordering on the sea at Victoria, Vancouver Island.

(206.) **L. intermedium,** Gray.

L. ruderale, Richards. in Frankl. Journ. 16. Hook. Fl. I., 68. Torr. & Gray, Fl. I., 115.

L. Menziesii, var. *β.*, Hook. Fl. I., 69.

This species and *L. Virginicum* have been so much confused that very little reliance can be placed on the stations given for the latter. Pictou, N. S. (*McKay.*) Vicinity of Montreal. (*McGill Coll. Herb.*) Lake Temiscamingue, 1870. (*J. Richardson.*) Very common in many parts of Hastings, Northumberland and Prince Edward counties, Amherstburgh and Pelee Island, Ont.; Little Current, Georgian Bay; and very abundant from Manitoba westward to the Rocky Mountains on Peace River. Spence's Bridge and along the Thompson to Lytton, B.C. (*Macoun.*) Rocky Mountains, Lat. 52°–56°. (*Drummond.*)

(207.) **L. Virginicum,** Linn. Virginia Pepper-grass.

Introduced from the South. Roadsides, Cape Soute, Q. (*Brunet.*) Old Citadel Hill, Montreal. (*Holmes.*) Near London, Ont. (*Burgess.*) Roadsides, Hamilton, Ont. (*Logie.*) Huron County, Ont. (*Gibson.*) Roadsides near Meyersburg, Northumberland County, Ont. (*Macoun.*)

(208.) **L. Draba,** Linn. Gray, Manual, 74.

Roadsides near Barrie, Ont. (*Spotten.*) This is likely a garden escape.

64. SENEBIERA, DC. (WART-CRESS. SWINE-CRESS.)

(209.) **S. Coronopus,** Poir. Swine-cress.

Introduced in ballast. Spreading in ballast from St. John, N.B. (*Fowler's Cat.*) On the wharf, Gaspé Basin, Q. (*J. Bell.*)

(210.) **S. didyma,** Pers. Wart-cress.

Cochlearia humifusa, Michx. Fl. II., 27.
Coronopus didymus, Pursh, 435.
Senebiera pinnatifida, DC. Torr. & Gray, Fl. I., 114.

Introduced in ballast. Newfoundland. (*McGill Coll. Herb.*) Spreading from ballast at St. John, N.B. (*Fowler's Cat.*) On the wharf at Gaspé Basin, Q. (*J. Bell.*)

65. CAKILE, Tourn. (SEA ROCKET.)

(211.) **C. Americana,** Nutt. American Sea Rocket.

C. maritima, Pursh, 434.
C. edentula, Hook. Fl. I., 59.
C. maritima, var. *Americana*. Torr. & Gray, Fl. I., 119.

Common along the shores of the Maritime Provinces, on the shores of the Gulf of St. Lawrence and on many beaches along the river. Along the shores of the great lakes at intervals from Kingston to Thunder Bay.

66. RAPHANUS, Linn. (RADISH.)

(212.) **R. Raphanistrum,** Linn. Wild Radish.

Introduced from Europe. Annapolis, N.S. (*McKay.*) A troublesome weed at Fredericton, N.B., and a few other places. (*Fowler's Cat.*) Barrie, Lake Simcoe, Ont. (*Buchan.*)

(213.) **R. sativus,** Linn. Garden Radish.

Spontaneous on waste heaps and frequent around market gardens. Seldom remains more than two years.

67. THELYPODIUM, Endl. (PURPLE ROCKET.)

(214.) **T. pinnatifidum,** Watson.

Hesperis (?) pinnatifida, Michx. Fl. II., 31.
Chieranthus hesperidoides, Torr. & Gray, Fl. I., 72.
Arabis hesperidoides, Gray, Manual, 68.

Found at Montebello, on the Lower Ottawa, around springs, June, 1881. (*R. B. Whyte.*) This species is far out of its range and may have been introduced.

68. THYSANOCARPUS, Hook.

(215.) **T. curvipes,** Hook. Fl. I., 69.

T. elegans, Fisch. & Meyer. Torr. & Gray, Fl. I., 118
T. pulchellus, Fisch. & Meyer. Torr. & Gray, Fl. I., 118.

Abundant on dry hill sides in the vicinity of Victoria, Vancouver Island, 1875.

XI. CAPPARIDACEÆ. CAPER FAMILY.

69. CLEOME, Linn. (CLEOME. SPIDER-FLOWER.)

(216.) **C. integrifolia,** Torr. & Gray, Fl. I., 122.

C. serrulata, Pursh. 441. Torr. & Gray, Fl. I., 121.

On dry saline soil from Woody Mountain, along the 49th parallel to the Rocky Mountains. (*Dawson.*) Abundant on many dry clay soils throughout the Great Plains. A beautiful flower and well worthy of cultivation.

(217.) **C. lutea,** Hook. Fl. I., 70.

C. aurea, Nutt. Torr. & Gray Fl. I., 122.

Common in North-west America. (*Douglas.*) This species ought to be found in southern British Columbia.

70. POLANISIA, Raf. (POLANISIA.)

(218.) **P. graveolens,** Raf. Heavy-scented Polanisia.

Cleome dodecandra, Michx. Fl. II., 32. Pursh, 441.

St. Helen's Island, Montreal. (*Holmes.*) St. John's, Q. (*McGill Coll. Herb.*) Lake Champlain. (*Bigelow.*) Border of Lake Ontario at Kingston. (*Brunet.*) Burlington Beach, Hamilton; common. (*Logie.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Malden, Detroit River. (*Maclagan.*) Abundant on the sands at Niagara town, Ont. Common on the shores of Long Lake, near Last Mountain, and at Gull and Island Lakes, north of the Cypress Hills, N.W.T. (*Macoun.*) Wood End, Souris River, N.W.T. (*Dawson.*)

XII. CISTACEÆ. Rock-rose Family.

71. HELIANTHEMUM, Tourn. (ROCK-ROSE.)

(219.) **H. Canadense,** Michx. Fl. I., 308. Frost-weed.

H. ramuliflorum, Michx. Fl. I., 307.
H. rosmarinifolium, Pursh, 364.
H. corymbosum, Pursh 363.

Dry, sandy, or gravelly soil, east of Belleville; very common on Rice Lake plains; St. James' Cemetery, Toronto; vicinity of London. Ont.; Pointe-aux-Pins, Lake Superior; Fort Francis, Rainy River. (*Macoun.*) Galt, Ont. (*Miss Crooks.*) Sandwich, Ont. (*Maclagan.*) Sandy plains of the Rivière aux Sables, Lambton Co., Ont. (*Gibson.*) Plains of the Saskatchewan. (*Bourgeau.*) Last reference doubtful.

72. HUDSONIA, Linn. (HUDSONIA.)

(220.) **H. tomentosa,** Nutt. Downy Hudsoniana.

H. ericoides, Richards. in Frankl. Journ., 11.

Sandy shores of lakes and rivers. Northwest Arm near Halifax, N.S. (*Sommers.*) Abundant on Kouchibouguac beach, N.B. (*Fowler's Cat.*) Anticosti and St. Laurent, Q. (*Brunet.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Pointe-aux-Pins, Montreal and Sandy Islands, Lake Superior; Fifteen-Mile Point, Rainy Lake, and Hungry Hall, entrance to the Lake of the Woods; sand hills west of Fort Pitt, N. W. T. (*Macoun.*) From Lake Huron to as far north as Slave Lake, in several places. (*Richardson.*)

(221.) **H. ericoides,** Linn.

McNab's Island, Halifax, N.S. (*Sommers.*)

73. LECHEA, Linn. (PINWEED.)

(222.) **L. major,** Michx. Greater Pinweed.

L. villosa, Ell. Hook. Fl. I., 72.

Dry woods in sterile soil. Sandy woods a mile south of Port Dover Junction, Canada Southern Railway, Ont. (*Macoun.*) Near London, Ont. (*Burgess.*)

(223.) **L. thymifolia,** Pursh. Thyme-leaved Pinweed.

On Goat Island, Grand Lake. New Brunswick. (*Fowler's Cat.*)

(224.) **L. minor,** Walt. Lesser Pinweed.

Dry sandy fields and open grassy woods. Kouchibouguac beach, N.B. (*Fowler's Cat.*) Three Rivers, Q.; and Sandwich, Ont. (*Maclagan.*) Vicinity of Hamilton. (*Buchan.*) Not common at London. (*Saunders.*) Rivière aux Sables, Lambton Co., Ont. (*Gibson.*) West of Brockville, Ont. (*Billings.*) Bay of Quinte, near Picton; Rice Lake Plains; Heely's Falls, Northumberland Co.; rare east of Belleville; sandy woods, Gull Lake, Addington Co.: St. Norah's Lake, eighty-four miles north of Lindsay, Ont.; St. James' Cemetery, Toronto; Pointe-aux-Pins, Lake Superior; Sturgeon Lake, Dawson Route. (*Macoun.*) North side of Lake Winnipeg. (*Drummond.*)

XIII. VIOLACEÆ. Violet Family.

74. IONIDIUM, Vent. (GREEN VIOLET.)

(225.) **I. concolor,** Benth. & Hook.

Viola concolor, Forst. Pursh, 175.
Solea concolor, Ging. Torr. & Gray, Fl. I., 144.
Noisettia acuminata, DC. Torr. & Gray, Fl. I., 136.

Near London, Ont., 1882. (*Burgess.*)

75. VIOLA, Linn. (VIOLET. HEART'S EASE.)

(226.) **V. rotundifolia,** Michx. Round-leaved Violet.

Cape Terry, N.S. (*How.*) Near Brome Lake and other localities in the Eastern Townships. (*McGill Coll. Herb.*)

(227.) **V. lanceolata,** Linn. Lance-leaved Violet.

Marshy meadows and by streams. On the shore at Rothsay, N.B. (*Fowler's Cat.*) Halifax and Annapolis, N. S. (*McKay.*) Muskoka Lake, Ont. (*Burgess.*) In rear of St. Mary's Village, Sault Ste. Marie. Lake Superior, 1869. (*Macoun.*) About Lake Huron. (*Todd.*)

(228.) **V. primulæfolia,** Linn. Primrose-leaved Violet.

Damp soil and wet meadows. St. Andrew's, N.B. (*Vroom.*) Rivière du Loup, Q.; not uncommon. (*Thomas.*) Reported by others from Quebec, but localities not given.

(229.) **V. blanda,** Willd. Sweet White Violet.

V. clandestina, Pursh, 173. Hook. Fl. I., 77.
V. obliqua, Pursh, 172, not Ait.

Very abundant in damp, mossy places from Newfoundland and Nova Scotia to British Columbia, and north on the Mackenzie to Fort Franklin. There are many forms of this species which require careful study, and possibly two species may be found under one name.

(230.) **V. renifolia,** Gray. Kidney-leaved Violet.

Dry cedar swamps and rich woods in ravines. Too often confounded with the preceding species, though with a different habit, having much larger and very pubescent leaves, which often become two inches across in summer. It is abundant in all our cedar swamps and mossy woods, and extends into British Columbia.

(231.) **V. biflora,** Linn.

Reported from the Arctic Coast. A species which seemed to accord with this was detected near Stuart Lake, B.C., in 1875.

(232.) **V. odorata,** Linn. English Sweet Violet.

Escaped from gardens, N.S. (*McKay.*) Escaped from cultivation at Victoria, Vancouver Island. (*Macoun.*)

(233.) **V. palustris,** Linn. Marsh Violet.

Wet swamps, amongst moss. Mount Albert, Gaspé, Q. (*O. D. Allen.*) One mile west of Prince Arthur's Landing, Dawson Road, Lake Superior, 1872. (*Macoun.*) Near Oxford House, north of Lake Winnipeg. (*R. Bell.*) From Vancouver Island to the forks of Peace River, Lat. 56°. (*Macoun.*) This species is easily distinguished from *V. blanda* by its pale lilac flowers and articulated rhizoma.

(234.) **V. Selkirkii,** Pursh. Great-spurred Violet.

Clifton, on the Kennebecasis, N.B. (*Wetmore.*) Near Half Moon Lake, St. John. St. Francis River, N.B. (*Hay.*) Damp and shady soil. Vicinity of Windsor, N.S. (*McGill Coll. Herb.*) Hilly ground about Montreal. (*Goldie.*) Island of Montreal. (*Holmes.*) Gate Lake, Wentworth Township, Q. (*D'Urban.*) Rivière du Loup, Q. (*Thomas.*) Dartmouth River, Gaspé. (*J. Bell.*) Ste. Anne des Monts, River, Gaspé. (*Macoun.*) McLeod's Harbor, Lake Huron. (*J. Bell.*) Walkerton and Owen Sound. (*Buchan.*) Woodstock, Ont. (*Burgess.*)

(235.) **V. cucullata,** Ait. Common Blue Violet.

Wet meadows, or borders of brooks in woods. Very common from the Atlantic to the Pacific. This species needs to be carefully examined, as there are many varietal forms in the north and west.

Var. **cordata,** Gray, Manual, 78.

V. villosa, Walt. Torr. & Gray, Fl. I., 138.
V. sororia, Willd. Pursh, 173.

Dry rocky hillside under poplars near the paper mill, Belleville, Ont.

Var. **palmata,** Gray, Manual, 78.

V. palmata, Linn. Hook. Fl. I., 74.
V. septemloba, La Conte. Torr. & Gray, Fl. I., 137.

Swamps and low grounds, western Ontario. Damp woods near Amherstburg, Ont. (*Macoun.*)

(236.) **V. sagittata,** Ait. Arrow-leaved Violet.

V. primulifolia, Pursh, 173, not Linn.
V. dentata, Pursh, 172.
V. ovata, Nutt. Hook. Fl. I., 76.

Dry, sandy and gravelly fields, woods, copses, and pastures, rather rare. Nun's Island, Berthier, Q. (*Holmes.*) Lorette, Stansfeld, Q. (*Provancher.*) Jones' Falls, Rideau Canal; and Amherstburg, Ont. (*Maclagan.*) Sandy fields near Belleville; Rice Lake plains, Ont.; common around Toronto; at Port Dover Junction, Ont. (*Macoun.*) Vicinity of London. (*Burgess.*)

(237.) **V. pedata,** Linn. Bird-foot Violet.

V. digitata, Pursh, 171.
V. pinnata, Richards. in Frankl. Journ., 6.

Common throughout Manitoba as far west as Brandon and north to Manitoba House, on Manitoba Lake. (*Macoun.*) As far north as Lat. 53° on the Saskatchewan. (*Richardson.*) Near Emerson and Pembina Mountain. (*Dawson.*)

(238.) **V. Langsdorffii,** Fisch. Hook. Fl. I., 77.

Island of Ounalashka. (*Chamisso.*) Since found in Alaska. (*Rothrock.*)

(239.) **V. striata,** Ait. Pale Violet.

V. debilis, Michx. Fl. I., 150.
V. ochroleuca, Schwein. Hook. Fl. I., 77.

Rich low grounds along streams. Very abundant in the valley of a small stream on the Canada Southern Railway, a few miles east of Amherstburg, Ont. (*Macoun.*) Common near Hamilton, Ont. (*Logie.*) Near London, Ont. (*Burgess.*)

(240.) **V. canina,** Linn. Var. **sylvestris,** Regel. Dog Violet.

V. debilis, Pursh, 174, not Michaux.
V. Muhlenbergii, Torr. Hook. Fl. I., 78.

Borders of brooks and damp shady woods. Common from the Atlantic to the Pacific. (*Macoun.*) South Greenland. (*Hook. Arct. Pl.*)

Var. **rupestris,** Regel. Mountain Violet.

V. Muhlenbergii vars. β & γ. Hook. Fl. I., 78.

Prairies among the Rocky Mountains, rare. (*Drummond.*)

Var. **adunca,** Gray. Western Dog Violet.

V. adunca, Smith. Hook. Fl. I., 79.
V. longipes, Nutt. Torr. & Gray, Fl. I., 140.

On dry prairies or dry soil generally. Frequent on the western plains, especially south of Battleford. The common Dog Violet of British Columbia. All the forms of this species need careful examination.

(241.) **V. rostrata,** Muhl. Long-spurred Violet.

Montreal Mountain. (*McGill Coll. Herb.*) Rocky woods and shaded hillsides. Reported in various places throughout Ontario, from Ottawa to Owen Sound.

(242.) **V. Canadensis,** Linn. Canada Violet.

Rich woods from Newfoundland and Quebec to British Columbia. Throughout Ontario it is very abundant, and in the forest country north of the great prairie it is quite frequent. (*Macoun.*) Near Woodstock, N.B. (*Chalmers.*)

(243.) **V. pubescens,** Ait. Downy Violet.

V. Pennsylvanica, Michx. Fl. II., 149.

Rich low woods from Newfoundland, Nova Scotia and New Brunswick, throughout Quebec and Ontario to Manitoba House and Lake Manitoba. Hooker says it extends to the mountains, but I have never detected it outside of Manitoba.

Var. **eriocarpa,** Nutt. Hook. Fl. I., 80.

Vicinity of Ottawa. (*Fletcher Fl. Ott.*) This seems to be the common form at Belleville. (*Macoun.*)

Var. **scabriuscula,** Torr. & Gray, Fl. I., 142.

Billings Bridge, Ottawa. (*Fletcher.*) Damp, clayey soil near Amherstburg, Ont. (*Macoun.*) Collectors might endeavour to define the limits of the three forms.

(244.) **V. glabella,** Nutt. Western Yellow Violet.

V. striata. Hook. in Lond. Journ. Bot., 6.
V. biflora, var. *Sitchensis,* Regel. Rothr. Alask., 444.

Rich moist woods from Yale to McLeod's Lake, B.C. (*Macoun.*) Drew's Harbor and Salmon River, B.C. (*Dawson.*) Rich woods near Yale, also at Port Moody, B.C., 1883. (*Hill.*)

(245.) **V. sarmentosa,** Dougl. Hook. Fl. I., 80.

Vancouver Island near Victoria, also in numerous places up the Fraser along the wagon-road, B.C. (*Macoun.*) Close to Yale, B.C. (*Hill.*)

(246.) **V. Nuttallii,** Pursh, 174.

On dry soil from near Winnipeg to Carlton and Edmonton on the Saskatchewan. This species seems local in its distribution.

Var. **præmorsa,** Watson.

V. linguæfolia. Nutt. Torr. & Gray, Fl. I., 141.

Abundant in open grassy places around Victoria, Vancouver Island. (*Macoun & Hill.*)

(247.) **V. tricolor,** Linn. Var. **arvensis,** Ging. Pansy Violet.

V. bicolor, Pursh, 175.
V. tenella, Muhl. Cat. 25.

In a field at Ottawa. (*Fletcher.*) Very abundant on dry rocky ground near the stone quarry at the north end of Pelee Island, Ont., 1882. (*Macoun.*) Lake Huron. (*Provancher.*)

Doubtful Species.

One specimen of a remarkable violet was sent from British Columbia, by J. A. Hill of the C. P. R. staff, which may possibly be the rare *V. biflora.* Not being able to find a description of this species, I am unable to identify it satisfactorily.

DESCRIPTION.—Stems apparently two-flowered; flowers yellow or cream color; leaves short, tapering into the petiole which is winged, scabrous on both sides, but especially on the prominent veins; margins crenate, slightly scabrous ciliate; stipules membraneous, acute, slightly ciliate at the tip; sepals white margined and ciliate.

XIV. POLYGALACEÆ. MILK-WORT FAMILY.

76. POLYGALA, Tourn. (MILK-WORT.)

(248.) **P. incarnata,** Linn.

Dry rocky soil. Rocky places on the Niagara River, near the Falls. (*Douglas,* 1823.) Not detected by later collectors.

(249.) **P. sanguinea,** Linn.

P. purpurea, Nutt. Torr. & Gray, Fl. I., 127.
P. viridescens, Linn. Pursh, 465.

Sandy and moist ground. Sandwich, Ont. (*Maclagan.*) Point Pelee, Ont. (*Burgess.*) Dry ground, vicinity of Hamilton, and Prince's Island, Ont. (*Logie & Buchan.*)

(250.) **P. verticillata,** Linn.

Dry gravelly or sandy soil. Boucherville Island, River St. Lawrence. (*Holmes.*) Vicinity of Montreal. (*McGill Coll. Herb.*) Between Sandwich and Amherstburgh, Ont. (*Douglas.*) On the Canada Southern Railway, north of the Great Western Crossing, Queenston Heights. (*Macoun.*)

(251.) **P. Senega,** Linn. Seneca Snake-Root.

Rocky soil, and sandy woodlands. Aroostook Falls and Tobique Narrows, Victoria Co., N.B. (*Hay & Wetmore.*) From the vicinity of Ottawa (*Fletcher*), throughout Ontario and westward across the plains to the Rocky Mountains. (*Macoun.*)

(252.) **P. polygama,** Walter, 179.

P. rubella, Willd. Pursh, 464.

Dry sandy soil. Dutch Village, N.S. (*Sommers.*) Rice Lake Plains; sand hills along the Humber near Toronto. (*Macoun.*) Woods in the vicinity of London, Ont. (*Burgess.*) Lake of the Woods. (*Dawson.*)

(253.) **P. pauciflora,** Willd.

P. uniflora, Michx. Fl. II., 53. Hook. Fl. I., 87.

Dry or moist sandy soil, generally in pine woods. Fredericton Junction, N.B. (*Bailey.*) Island of Montreal. (*Holmes.*) Near St. Louis Dam, Ottawa. (*H. Ami.*) Davie's Locks on the Rideau Canal near Kingston. (*Maclagan.*) Komoka, near London, Ont. (*Burgess.*) Near Lake Medad, Ont. (*Logie.*) Cockburn Island, Lake Huron. (*J. Bell.*) Abundant in the County Northumberland at Trenton, Wooler, Murray Townhall, Castleton, and Colborne; banks of the Humber near Toronto; Port Dover Junction, Ont.; Point aux Pins and Kaministiqua River, Lake Superior. (*Macoun.*) Saskatchewan Plains. (*Bourgeau.* [?].)

Excluded Species.

Polygala fastigiata, said to have been found by Judge Logie at Hamilton, and *P. Nuttallii* mentioned as occurring in the same neighborhood by Mr. Buchan, are included in *P. sanguinea.*

XV. CARYOPHYLLACEÆ. Pink Family.

77. SILENE, Linn. (CATCH-FLY. CAMPION.)

(254.) **S. stellata,** Ait.

Cucubalus stellatus, Linn. Michx. Fl. I., 271.

Wooded banks. Dry stony places on the Niagara River. (*Douglas,* 1823.) Not detected lately.

(255.) **S. inflata,** Smith. Bladder Campion.

Cucubalus Behen, Linn. Michx. Fl. I., 271.

Introduced into meadows and waste places. Miramichi, Richibucto, and Edmunton, N.B. (*Fowler's Cat.*) Extremely abundant in all old clearings throughout the Gaspé Peninsula and rather common in Quebec, scarce at Belleville, Ont. (*Macoun.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Neighborhood of Prescott, Ont., rare. (*Billings.*) Hamilton, Ont. (*Logie.*) Near London, Ont. (*Burgess.*) L'Orignal, Prescott, Co. Ont. (*J. Bell.*)

(256.) **S. Douglasii,** Hook. Fl. I., 88.

To be looked for in Southern British Columbia.

(257.) **S. Scouleri,** Hook. Fl. I., 88.

To be looked for in Southern British Columbia.

(258.) **S. antirrhina,** Linn. Sleepy Catchfly.

Common amongst rocks and on sandy soil. Vicinity of Ottawa (*Fletcher*), throughout Ontario, and westward across the plains to Vancouver Island. It has never been reported from any point east of Ottawa.

(259.) **S. Virginica,** Linn. Fire Pink.

Open woods. Lake Huron. (*Todd.*) Islands in Detroit River. (*Maclagan.*) Confined to southwestern Ontario.

(260.) **S. Armeria,** Linn. Garden Catchfly.

Occasionally spontaneous in gardens, N.B. (*Fowler's Cat.*) Spontaneous in some gardens at Belleville and near Campbellford, Ont. (*Macoun.*) Vicinity of Arnprior, Ont. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Pentanguishene on the Georgian Bay. (*Todd.*)

(261.) **S. noctiflora,** Linn. Night-flowering Catchfly.

Introduced sparingly into fields and gardens. A weed in gardens, N.S. (*Lawson.*) A rare weed in cultivated grounds, N.B. (*Fowler's Cat.*) Frequent in cultivated grounds Quebec and Ontario, also at Winnipeg, Manitoba.

(262.) **S. Menziesii,** Hook. Fl. I., 90.

S. stellarioides, Nutt. Torr. & Gray, Fl. I., 193.

Belly River, N.W.T. (*Burgess.*) Vancouver Island near Victoria; Blackfoot Crossing of Bow River; Cypress Hills at Fort Walsh; at a salt spring near the mouth of Red Deer River, at the head of Lake Winnipegoosis, N. W. T. (*Macoun.*) North-west coast of America. (*Menzies.*) Woods near Port Moody, B. C. (*Hill.*) Portage D'Embarras, Slave River. (*Richardson.*)

(263.) **S. acaulis,** Linn. Moss Campion.

St. Paul's Island, and Cape Breton Island. (*McKay.*) Top of Mount Albert, Shickshock Mountains, Gaspé, Q. (*Macoun.*) Coast of Labrador. (*Butler.*) Throughout the whole of Arctic and Subarctic America, and from Labrador to Behring's Straits. (*Hooker.*) Elevated parts of the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Kootanie Pass near the 49th parallel. (*Dawson.*) Bow River Pass; Mount Selwyn, Peace River Pass. (*Macoun.*) Cariboo Mountains, B. C. (*Cooley.*) Kotzebue Sound, Cape Lisburne, and Youcon River banks. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

Excluded Species.

Silene Pennsylvanica is mentioned in Hooker's Fl. I., 90, as occurring on rocky islands on the north side of Lake Erie, but he states that he had not seen the specimens. As *S. Virginica* has been found in the same vicinity, if not in the very same locality, I consider the latter species as the one meant.

78. LYCHNIS, Tourn. (LYCHNIS, COCKLE.)

(264.) **L. apetala,** Linn.

Labrador. (*Morrison.*) At Fort Norman, near the Arctic Circle. (*Richardson.*) Abundant everywhere beyond the Arctic Circle and as far west as Behring's Straits. (*Hooker.*) On the more elevated parts of the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Bow River Pass;

on Mount Selwyn, Peace River Pass. (*Macoun.*) York Factory, Hudson's Bay. (*R. Bell.*) Greenland. (*Hook. Arct. Pl.*) Gulf of Boothia. (*Back.*)

Var. **glabra,** Regel.

L. apetala, Pl. Bourgeau, 255.

Bow River Pass, Rocky Mountains. (*Bourgeau.*)

(265.) **L. elata,** Watson. (New Species.)

Silene Scouleri, Pl. Bourgeau, 255.

Found by Lyall somewhere on the International boundary on the western side of the Rocky Mountains. In the summer of 1881, Dr. G. M. Dawson obtained a number of fine specimens at the summit of the Kootanie Pass on the east side of the Mountains. Bow River Pass. (*Bourgeau.*)

(266.) **L. alpina,** Linn.

West coast of Newfoundland. (*McGill Coll. Herb.*) Labrador. (*Morrison.*) Ungava Bay, Labrador. (*Barnston.*) Very abundant on the top of Mount Albert, Shickshock Mountains, Gaspé. (*Macoun.*) Greenland. (*Hook. Arct. Pl.*)

(267.) **L. Drummondii,** Watson.

Silene Drummondii, Hook. Fl. I., 89.

Plains of the Saskatchewan. (*Richardson.*) Very abundant on dry gravelly ridges from near Fort Ellice to the Rocky Mountains, N.W.T.

(268.) **L. Githago,** Lam. Corn-Cockle.

Agrostemma Githago, Linn. Hook. Fl. I., 92.

Common in wheat-fields as a pernicious weed. Wherever wheat is cultivated this weed is found in abundance.

(269.) **L. vespertina,** Smith. Evening Lychnis.

A weed in a few gardens and waste places. Annapolis, N.S. (*How.*) Saint Stephen, N. B. (*Vroom.*) Scarcely established in Ontario. Vicinity of London, Ont. (*Burgess.*) Township of Stanley, Huron Co., Ont. (*Gibson.*)

(270.) **L. dioica,** Linn.

L. diurna, Linn. Wood. Bot. & Fl., 54.

Introduced in Nova Scotia at Kentville. (*Lawson.*) Vicinity of Ottawa. (*Fletcher. Fl. Ott.*) East Greenland. (*Hook. Arct. Pl.*)

(271.) **L. Flos-cuculi,** Linn. Ragged Robin.

Campbellton, New Brunswick. (*Chalmers.*) Doubtless introduced.

(272.) **L. affinis,** Vahl.

Melandryum involucratum, var. *affine*, Rohrb. Watson. King's Rep. V., 431.

Greenland and Labrador. (*Watson.*)

79. DIANTHUS, Linn. (PINK. CARNATION.)

(273.) **D. Armeria,** Linn. Deptford Pink.

Introduced into the waste ground between Niagara Falls and the Canada Southern Railway. (*Macoun.*)

(274.) **D. alpinus,** Linn. var. repens, Regel.

D. repens, Willd. Hook. Fl. I., 87.

Bay of Eschscholtz. (*Chamisso.*) Kotzebue Sound. (*Beechy.*) Norton Sound, Cape Lisburne, and Youcon River banks. (*Rothr. Alask.*)

80. SAPONARIA, Linn. (SOAPWORT.)

(275.) **S. officinalis,** Linn. Bouncing Bet.

Introduced into gardens and escaped into waste places along lanes and garden fences. Twelve-mile House near Halifax, N.S. (*Lawson.*) Queensbury Parsonage, N.B. (*Bailey.*) Montreal Mountain, Lachine and St. Andrews, Q. (*McGill Coll. Herb.*) Vicinity of London, Ont. (*Saunders.*) Hamilton, Ont. (*Logie.*) Very common along roadsides in Hastings, Prince Edward and Northumberland Counties, Owen Sound and St. Thomas, Ont. (*Macoun.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*)

(276.) **S. Vaccaria,** Linn. Common Cow-Herb.

Vaccaria vulgaris, Host. Gray, Manual, 88. Macoun's Cat., No. 242.

Introduced along railways and rarely in cultivated fields. In waste lots in Ottawa. (*Fletcher Fl. Ott.*) In gardens and waste places at Belleville and Owen Sound, Fort Francis, Rainy Lake and around Winnipeg. Fort Walsh, Cypress Hills. (*Macoun.*)

81. ARENARIA, Linn. (SANDWORT.)

(277.) **A. capillaris,** Poir, var. **nardifolia,** Regel.

A. nardifolia, Ledeb. Hook. Fl. I., 98.
A. formosa, Hook. Nos. 254, 258 & 260, Macoun's Cat.

Shores of the Arctic Sea. (*Richardson.*) Cascade, Kootanie, and

Rocky Mountains. (*Lyall.*) Rocky Mountains in the Kootanie Pass. (*Dawson.*) Mountain behind the hotel at Spence's Bridge, B. C. (*Macoun.*)

(278.) **A. congesta,** Nutt., var. **sub-congesta,** Watson.

On gravelly slopes about the centre of the Cypress Hills. (*Macoun.*) Along Belly River, N.W.T., 1881. (*Dawson.*)

(279.) **A. arctica,** Stev.

A. laricifolia, Pursh. Hook. Fl. I., 98.

Abundant on top of Mount Albert, Shickshock Mountains, Gaspé, Q. (*Macoun.*) Shores of the Arctic Sea. (*Richardson.*) Tzi-tzult Mountains, B.C. (*Dawson.*)

Var. **breviscapa,** Regel.

A. arctica, var. *β. grandiflora,* Hook. Fl. I., 100.
A. Pumilio, R.Br. Hook. Fl. I., 100.

Shores of the Arctic Sea. (*Richardson.*) On one of the islands in Hecla and Fury Straits. (*Ross.*) Kotzebue Sound to Cape Lisburne. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(280.) **A. biflora,** var. **obtusa,** Watson.

A. arctica, var. *stenopetala,* Hook. Fl. I., 100.
A. arctica, var. *γ (obtusa),* Torr. & Gray, Fl. I., 181.

Coast west of the Mackenzie River. (*Richardson.*) Top of Rocky Mountains in the Kootanie Pass. (*Dawson.*)

(281.) **A. verna,** Linn. Hook. Fl. I., 99.

A. juniperina, Pursh. Hook. Fl. I., 98.

Cape Charles and Amour Bay, Labrador. (*Brunet.*) Labrador and Newfoundland. (*Pursh.*) On Mount Albert, Shickshock Mountains, Gaspé. On Percé Mountain and Percé Rock, Bay of Chaleur. (*Macoun.*) Between Norway House and Cumberland House. (*Richardson.*) Bow River Pass, Rocky Mountains. On the Nechacco River at the Ford, and Stuart Lake Mountain, B.C. (*Macoun.*) York Factory. (*Bell.*) Greenland. (*Hook. Arct. Pl.*)

Var. **hirta,** Watson. King's Rept. V., 41.

A. hirta, Wormsk. Hook. Fl. I., 99.
A. propinqua, Richards. Hook. Fl. I., 99. Macoun's Cat., No. 255.

Petité Portage, Gaspé, on rocks. (*J. Bell.*) Percé Mountain and Percé Rock, Bay of Chaleur; also top of Mount Albert, Shickshock Mountains, Gaspé. (*Macoun.*) Barren grounds north of Lat. 54° to the

Arctic Sea. (*Richardson.*) Summits of the Rocky Mountains. (*Drummond.*) Bow River Pass. (*Bourgeau.*) Cypress Hills, N.W.T.; Stuart Lake Mountain, B.C., and Mount Selwyn, Peace River Pass. (*Macoun.*) Along the western shores of northern Alaska. (*Rothr. Alask.*)

Var. **rubella,** Hook.

A. quadrivalvis, R.Br., in Parry's 1st Voy., 271.
A. rubella, Hook. Fl. I., 100.

Top of Mount Albert, Shickshock Mountains, Gaspé, Q. (*Macoun.*) Arctic Sea coast. (*Richardson.*) Summits of the Rocky Mountains. (*Drummond.*) Mount Selwyn, Peace River Pass. (*Macoun.*) Greenland. (*Hook. Arct. Pl.*)

(282.) **A. stricta,** Fenzl.

A. Rossii, R. Br. Hook. Fl. I., 100. Macoun's Cat., No. 253.
A. uliginosa, Schleich. Gray, Proc Phil. Acad, 1863.

Arctic Sea coast. (*Richardson.*) Upon the summits of the Rocky Mountains, Lat. 54°–57°. (*Drummond.*) Top of Mount Selwyn, Peace River Pass. (*Macoun.*) Top of the Rocky Mountains; Kootanie Pass. (*Dawson.*) Greenland. (*Hook. Arct. Pl.*)

(283.) **A. pungens,** Nutt. Torr. & Gray Fl. I., 179.

Top of the Rocky Mountains, in the S. Kootanie Pass. (*Dawson.*)

(284.) **A. Michauxii,** Hook.

A. stricta, Michx. Hook. Fl. I., 99. Macoun's Cat., No. 250.
Alsine Michauxii, Fenzl. Gray, Manual, 2d Ed., 1858.

Rocky, gravelly and sandy soil. North to the shores of the Arctic Sea. (*Richardson.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) McLeod's Harbor, Cockburn Island, Lake Huron. (*J. Bell.*) Near London, Ont. (*Saunders.*) Huron County. (*Gibson.*) Common on limestone soil at Belleville; Point Pelee, Lake Erie; Red Bay, Bruce Peninsula, Lake Huron; Pic River, north-east coast of Lake Superior; Lake of the Woods; Valley of the Qu'Appelle at Fort Ellice; Dunvegan, Peace River, Lat. 56°. (*Macoun.*) Saskatchewan Plains. (*Bourgeau.*)

(285.) **A. macrocarpa,** Pursh, 318.

North-west coast of America. (*Pursh.*) Chamisso's Island and Island of St. Lawrence. (*Chamisso.*) North-west coast of Alaska. (*Rothr. Alask.*)

(286.) **A. tenella,** Nutt. Torr. & Gray, Fl. I., 179.

Dry rocky soil near Victoria, Vancouver Island. (*Macoun.*)
This species is referred to on page 99 of Hooker's Flora as having

been collected on the Columbia by *Scouler*. Hooker includes it in *A. Michauxii*.

(287.) **A. Grœnlandica,** Spreng.

Alsine Grœnlandica, Gray. Matthew, Pl. Acad., 8.

Labrador. (*Torr. & Gray.*) Tadoussac, north shore of St. Lawrence. (*Burgess.*) Greenland. (*Hook. Arct. Pl.*)

(288.) **A. serpyllifolia,** Linn. Thyme-leaved Sandwort.

Introduced, though apparently indigenous. Halifax, N.S. (*Lawson.*) Labrador. (*Brunet.*) Sea shore at Rivière du Loup, Q., on sandy places. (*Thomas.*) Common around London, Ont. (*Saunders.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Very common in Hastings and Northumberland Cos.; rear of Picton, Prince Edward Co.; Owen Sound and Amherstburgh, Ont. (*Macoun.*) Hamilton, Ont. (*Buchan.*)

(289.) **A. lateriflora,** Linn. Broad-leaved Sandwort.

A. buxifolia, Poir. Hook. Fl. I., 101.
Stellaria biflora, Pursh, 317.
Mœhringia lateriflora, Fenzl. Gray, Man., 2nd Ed. 1858.

Very abundant from Nova Scotia, particularly on sandy soil or in swampy ground, to Vancouver Island, and north to Lat. 60°.

(290.) **A. macrophylla,** Hook. Fl. I., 102.

In shady woods, North-west America, and banks of the Saskatchewan. (*Douglas.*) Victoria, Vancouver Island. (*Macoun.*)

(291.) **A. peploides,** Linn. Sea-side Sandwort.

Honkenya peploides, Ehrh. Torr. & Gray, Fl. I., 176.

Along sea shores everywhere, from the Bay of Fundy to Behring's Straits. Greenland. (*Hook. Arct. Pl.*)

Var. **oblongifolia,** Watson.

A. peploides, var. *major*, Hook. Fl. I., 102.
Honkenya oblongifolia, Torr. & Gray, Fl. I., 176.

Straits of De Fuca. (*Scouler.*) Sitka, also Behring's Straits. (*Chamisso.*) Queen Charlotte Islands. (*Dawson.*) Kotzebue Sound. (*Rothr. Alask.*)

(292.) **A. physodes,** DC. Prod. I., 413.

Stellaria ovalifolia, Hook. Fl. I., 97.
Merckia physodes, Fisch. Hook. Fl. I., 103.

Frequent on the sandy sea shores of the Bay of Eschscholtz. (*Chamisso.*) Norton Sound to Point Barrow, (*Rothr. Alask.*)

Excluded Species.

Hooker on page 101 of his Flora of North America mentions *A. fasciculata*, Pursh, as occurring in Canada. There is no doubt but that the plant intended is *A. Michauxii*, as the leaves of that species are always in fascicles in the axils of the branches.

82. STELLARIA, Linn. (CHICKWEED STAR-WORT.)

(293.) **S. media,** Smith. Common Chickweed.

Holosteum succulentum. Linn. Pursh. 90.

Introduced into all garden grounds from the Atlantic to the Pacific. Greenland. (*Hook. Arct. Pl.*)

(294.) **S. longifolia,** Muhl. Long-leaved Stitchwort.

Spergulastrum gramineum, Michx. Fl. I., 276.
Micropetalon gramineum, Pers. Pursh, 320.
Stellaria graminea, Bigel. Richards. in Frankl. Journ., 10.

Grassy places; quite common from Nova Scotia to the Pacific Coast. It is a northern species and delights in grassy margins of woodland brooks. (*Macoun.*) Woody country from Lat. 54°–64°. (*Richardson.*) Sitka and Kotzebue Sound. (*Rothr. Alask.*)

(295.) **S. borealis,** Bigel. Northern Stitchwort.

Spergulastrum lanceolatum, Michx. Fl. I., 275.
Micropetalon lanceolatum, Pers. Pursh, 320.

Very common in mud on brook margins and in open swamps from the Atlantic to the Pacific, and north to Fort Norman in Lat. 65°. Magdalen Islands, Gulf of St. Lawrence. (*McKay.*) Greenland. (*Hook. Arct. Pl.*)

Var. **alpestris,** Gray, Manual, 93.

Stellaria alpestris, Fries.
S. brachypetala, Bong. Torr. & Gray, Fl. I., 186.
S. borealis, var. *corollina*, Fenzl. Macoun's Cat., No. 274.
S. longifolia, Pl. Bourgeau, 255 in part.
S. gracilis, Richards. Macoun & Gibson.

Pic Island, Thunder Bay, Lake Superior, growing in tufts close to the water, 1869. At Yale, B. C. (*Macoun.*) Saskatchewan Plains. (*Bourgeau.*) Sitka. (*Torr. & Gray.*)

(296.) **S. calycantha,** Bongard. Torr. and Gray, Fl. I., 186.

This species is referred to *S. borealis* by Sereno Watson in his Index

to American Botany. I believe its characters to be sufficiently distinct to warrant its separation from that species. Specimens were collected near Macleod's Lake in Northern British Columbia which completely accord with the description of this species and are altogether unlike any form of *S. borealis* we possess. The character, "leaves ovate-lanceolate, connate, the margin minutely ciliate with white hairs, much shorter than the internodes," separates it from that species.

(297.) **S. uliginosa,** Murr. Swamp Stitchwort.

S. aquatica, Poll. Torr. & Gray, Fl. I., 186.
Larbræa uliginosa, Hook. Fl. I., 93.

Halifax Co., N.S. (*McKay.*) Rather common in swamps and rills, N.B. (*Fowler's Cat.*) English River, near Isle La Crosse, N.W.T. (*Back.*) Prairies of the Rocky Mountains Lat. 52°–57°. (*Drummond.*) Island of Ounalashka. (*Chamisso.*) Greenland. (*Hook. Arct. Pl.*)

(298.) **S. crassifolia,** Ehrh. Gray, Manual, 93.

S. borealis, var. β, Hook. Fl. I., 95.

St. Paul's Island. Gulf of St. Lawrence. (*McKay.*) Frequent in low damp spots in the prairie region. Specimens from the Cypress Hills and Hand Hills are like the eastern forms. (*Macoun.*) Sitka. (*Mertens.*)

(299.) **S. gracilis,** Richards. Hook. Fl. I., 97.

This species is doubtfully referred to *S. uliginosa* by Watson, but is in my opinion quite distinct. The abundant gemmæ in the axils of the leaves and its peculiarly lax habit amply distinguish it from *S. uliginosa*. Abundant on the banks of Methy River, near Portage La Loche, Lat. 57°. (*Macoun.*) York Factory, Hudson's Bay. (*R. Bell.*) About Slave Lake, and between Cumberland House and Hudson's Bay. (*Richardson.*)

(300.) **S. longipes,** Goldie. Long-stalked Stichwort.

S. glauca, Meyer. Pl. Lab., 93.

Dry gravelly river banks and margins of lakes, also sandy woods in the north. Very abundant in many places from Nova Scotia to the Pacific. In its various forms it is found on the mountains, on the prairie and in the forest, and extends northward to the shores and islands of the Arctic Sea. The eastern form is tall, rigid and generally glaucous. (*Macoun.*) Greenland. (*Hook. Arct. Pl.*)

Var. **minor,** Hook. Fl. I., 95.

S. palustris, Richards. in Frankl. Journ., 10.
S. stricta, Hook. Fl. I., 96.

From Lake Winnipeg to Bear Lake, Lat. 65°. (*Richardson.*) From

Hudson's Bay to the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Echimamish River to Oxford House. (*R. Bell.*) Nechacco River. Quesnel and Blackwater River, B.C. (*Macoun.*)

Var. (**læta,**) Torr. & Gray. Fl. I., 185.

S. læta, Richards. in Frankl. Journ., 10. Hook. Fl. I., 96.

From Great Bear Lake to the shores and islands of the Arctic Sea. (*Richardson.*) Upon the more elevated of the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Top of Stuart Lake Mountain, B.C.; top of Mount Selwyn, Peace River Pass. (*Macoun.*) Top of Rocky Mountains, S. Kootanie Pass. (*Dawson.*)

Var. (**Edwardsii,**) Torr. & Gray, Fl. I., 185.

S. Edwardsii, R.Br. Hook. Fl. I., 96.
S. nitida, Hook. in Scoresb. Greenl., 411.

On the coast near Ste. Anne des Monts, Gaspé. (*O. D. Allen.*) East coast of Hudson's Bay. (*R. Bell.*) Shores and islands of the Arctic Sea. (*Richardson.*) Behring's Straits. (*Chamisso.*) Greenland. (*Hook. Arct. Pl.*)

(301.) **S. nitens,** Nutt. Torr. & Gray, Fl. I., 185.

S. stricta, Hook. Fl. I., 96, in part.

Vancouver Island, around Victoria. (*Hill & Macoun.*)

(302.) **S. umbellata,** Turcz.

S. borealis, var. γ, Hook. Fl. I., 94.

On the Rocky Mountains, Lat. 52°–56°. (*Drummond.*)

(303.) **S. crispa,** Cham. & Schlecht.

Dry slopes of Cedar Hill near Victoria, British Columbia. (*Macoun.*) Sitka. (*Rotlr. Alask.*)

(304.) **S. obtusa,** Engelm. (New Species.)

S. humifusa, Rottb. Macoun's Cat., No. 269.

On the boggy slope of a hillside near Macleod's Lake, British Columbia, 1875. (*Macoun.*)

(305.) **S. humifusa,** Rottb.

Arenaria thymifolia, Pursh, 317.
A. Purshiana, Seringe. Hook. Fl. I., 102.

Sea shore of Labrador. (*Pursh.*) Harvey, York Co., N.B. Rare. (*Fowler's Cat.*) Shores of the Gulf St. Lawrence, Little Fox River, Gaspé. (*Macoun.*) Pointé des Monts, Gaspé. (*J. Bell.*) Temiscouta, Q. (*Burgess.*) Kamouraska, Q. (*Maclagan.*) Sandy shores of the

Arctic Sea and islands. (*Richardson.*) Norton and Kotzebue Sound. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

83. CERASTIUM, Linn. (MOUSE-EAR CHICKWEED.)

(306.) **C. viscosum,** Linn. Pl. Bourgeau, 255.

C. vulgatum, Linn. Hook. Fl. I., 103. Torr. & Gray, Fl. I., 187. Gray, Manual, 93.
C. glomeratum, Thuill. Sow. Eng. Bot. II., 82.

Introduced into cultivated ground, more especially gardens. Reported from Nova Scotia to the western part of Ontario. Abundant around Victoria, British Columbia. (*Macoun.*) Greenland. (*Hook. Arct. Pl.*)

(307.) **C. vulgatum,** Linn.

C. viscosum, Linn, Herb. not Spec. Hook. Fl. I., 103. Gray, Manual, 94.
C. triviale, Link.

This species seems to be indigenous to Ontario and the Eastern provinces, as it is common in woods and cultivated grounds. It is perennial, or lasts more than two years. Greenland. (*Hook. Arct. Pl.*)

(308.) **C. nutans,** Raf. Nodding Mouse-ear Chickweed.

On places where water lies in the spring. Windsor Junction, N.S. Montreal Mountain, Q. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Very abundant at Belleville on wet limestone shingle; woods near Amherstburgh, Ont.; Prince Arthur's Landing, Lake Superior; Lake Manitoba at the Narrows; Big Lake west of Edmonton; Little Slave Lake; St. John's, Peace River; and at Victoria, Vancouver Island. (*Macoun.*) From the Eastern provinces to Lat. 58°, and from Hudson's Bay to the elevated valleys of the Rocky Mountains. (*Richardson.*)

(309.) **C. arvense,** Linn. Meadow Chickweed.

C. Pennsylvanicum, Hornem. Hook. Fl. I., 104
C. elongatum, Pursh, 321. Hook. Fl. I., 103.
C. tenuifolium, Pursh, 321.

On rocky banks, hills and pastures, from Labrador and Pictou, N.S. to Vancouver Island. A common and beautiful species.

(310.) **C. oblongifolium,** Torrey.

C. arvense, Pursh, 321. (?.) Richards in Frankl. Journ., 738.
? *C. bracteatum*, Raf. Torr. & Gray Fl. I., 189.
C. pubescens, Goldie. Edinb. Phil. Journ. IV., 328.

Wet woods, close to Amhertsburgh, Ont.; Point Pelee and Pelee Island, Ont. A rare and beautiful species.

(311.) **C. alpinum,** Linn. Alpine Mouse-ear Chickweed.

Forteau Bay, Labrador. (*Butler.*) Cliff and debris, Petite Portage, Cape Gaspé. (*J. Bell.*) Arctic America and adjacent islands, Kotzebue Sound. (*Lay & Collie.*) Rocky Mountains. (*Drummond.*) Churchill River, Hudson's Bay. (*R. Bell.*) Greenland. (*Hook. Arct. Pl.*)

Var. **Behringianum,** Regel.

C. Behringianum, Cham. & Schlecht. Hook. Fl. I., 105. Macoun's Cat., No. 279.
C. vulgatum, var. *Behringianum*, Fenzl. Rothr. Alask. 444.

In the Bay of Eschscholtz. (*Hooker.*) Kotzbue Sound to Cape Lisburne. (*Rothr. Alask.*) Bow River Pass, Rocky Mountains. (*Macoun.*) Rocky Mountains. (*Bourgeau.*)

Var. **Fischerianum,** Torr. & Gray Fl. I., 188.

C. rigidum, Ledeb. Hook. Fl. I., 105.
C. Fischerianum, Ser. Hook. Fl. I., 103.
C. alpinum, Hook. Fl. I., 104, in part.
C. vulgatum, vars. *grandiflorum & macrocarpum*, Fenzl. Rothr. Alask.

Frequent on all the coasts of America bordering on Behring's Straits, also Ounalashka Island. (*Chamisso.*) Norton Sound. (*Rothr. Alask.*) Smith's Sound, Greenland. (*Hook. Arct. Pl.*)

Var. **glabratum,** Hook. Fl. I., 104.

Duke of York's Bay. (*Capt. Parry.*)

Var. **latifolium,** Smith. (?)

A form, with one or two flowered peduncles and clothed with glandular hairs, causing the upper part of the stems to appear almost viscid, was obtained on cliffs along the Gaspé coast, about 15 miles below Ste. Anne des Monts, in August, 1882. It has the general appearance of *var. Behringianum*, but seems nearer to *C. latifolium* of Smith's English Botany.

(312.) **C. pilosum,** Ledeb.

C. stellarioides, Moç. Hook. Fl. I., 103.

Nootka Sound. (*De Candolle.*) Alaska. (*Bot. Cal. I.*, 67.) A little known species.

(313.) **C. trigynum,** Vill.

Stellaria cerastioides, Linn. Torr. & Gray, Fl. I., 184.

Table-topped Mountain, Gaspé, Q. (*O. D. Allen.*). Greenland. (*Hook. Arct. Pl.*)

84. SAGINA, Linn. (PEARL-WORT.)

(314.) **S. procumbens,** Linn.

West coast of Newfoundland. (*J. Bell.*) Bedford, N.S. (*Lawson.*) Very common at Pictou, N.S. (*McKay.*) Damp rocks and springy places, N.B. (*Fowler's Cat.*) Springy places and damp rocks along the whole Gaspé coast. (*Macoun.*) Pointe des Monts, Gaspé Bay. (*J. Bell.*) Greenland. (*Hook. Arct. Pl.*)

(315.) **S. occidentalis,** Watson. Bot. Cal. I., 70.

S. procumbens, Linn. Hook. Fl. I., 92.

On rocks near the sea at Victoria, Vancouver Island. (*Macoun.*) Queen Charlotte Islands. (*Dawson*). North-west coast of America. (*Menzies*). Sitka, Ounalashka and Kotzebue Sound. (*Rothr. Alask.*)

(316.) **S. Linnæi,** Presl.

Spergula saginoides, Linn. Hook. Fl. I., 93.

This species is ascribed to Canada, by Sereno Watson, Bot. Cal. I., 70. He says it extends from Arctic America, southward in the Rocky Mountains. Greenland. (*Hook. Arct. Pl.*)

(317.) **S. decumbens,** Torr. & Gray Fl. I., 177.

Sperynla saginoides, Michx. Fl. I., 276, not Linn.
Sagina procumbens, Pursh, 119.
Spergula subulata, Hook. Fl. I., 93.
Sagina subulata, Torr. & Gray Fl. I., 178.

Rocky Mountains. (*Drummond.*) On the open prairie, 30 miles east of the Hand Hills, N.W.T. (*Macoun.*)

(318.) **S. nodosa,** E. Meyer.

Spergula nodosa, Linn. Hook. Fl. I., 93.

Wet soil and crevices of rocks along shores of both the sea and inland lakes. Magdalen Islands, Gulf of St. Lawrence. (*McKay.*) Halifax and Pictou, N. S. (*Sommers.*) Restigouche River and Pea Point, Charlotte Co., N. B. (*Fowler's Cat.*) Abundant at many points along the Gaspé coast. Island of St. Ignace, Agate Island, Michipicotin Island, and along the north-east coast of Lake Superior. (*Macoun.*) North end of Lake Winnipeg. (*R. Bell.*) Ontario, to the shores of the Arctic Sea, eastward of the Mackenzie River. (*Richardson.*) Greenland. (*Hook. Arct. Pl.*)

85. SPERGULARIA, Pers. (SAND SPURRY.)

(319.) **S. media,** Presl.

Arenaria rubra var. β. Michx. Fl. I., 274.
A. Canadensis, Pers. Pursh. 319.
Arenaria rubra, Hook. Fl. I., 98.
Spergula rubra, var. (?) γ. Torr. & Gray Fl. I., 175.
Spergularia rubra, var. *marina.* Matthew, Pl. Acad. 21.
Lepigonum medium, Fries. Wat. Index, 103.

Salt marshes and sands both along the Atlantic coast and throughout the prairie region. Pictou, N.S. (*McKay.*) Salt marshes and sands, N.B. (*Fowler's Cat.*) Very common on the borders of salt lakes and ponds, from Winnipeg to the Rocky Mountains. (*Macoun.*) Between Cumberland House and Bear Lake. (*Richardson.*) James's Bay. (*Burgess.*)

(320.) **S. rubra,** Presl.

Arenaria rubra, Hook. Fl. I., 98, in part.
Spergula rubra, Torr. & Gray, Fl. I., 175.
Spergularia rubra, var. *campestris.* Gray, Manual, 95.
Lepigonum rubrum, Fries. Wat. Index, 103.

On comparatively dry soil. Windsor, Halifax and Pictou, N.S. (*Lawson.*) Sandy soil; abundant in Fredericton, N.B. (*Fowler's Cat.*) Cacouna, Q. (*Buchan.*)

(321.) **S. salina,** Presl. Gray, Manual, 95.

Lepigonum salinum, Fries. Wat. Index, 104.

Brackish sands, along the sea coast. Labrador. (*Brunet.*) Pennant, N.S. (*Sommers.*) Sand on seashore, N.B. (*Fowler's Cat.*) Shore of Gaspé Bay. (*J. Bell.*) Frequent from the head of the Bay of Chaleur, around the Gaspé coast, up to Rivière du Loup, Q. (*Macoun.*) Greenland. (*Hook. Arct. Pl.*)

86. SPERGULA, Linn. (CORN SPURRY.)

(322.) **S. arvensis,** Linn.

Introduced. A weed in Nova Scotia. (*Lawson.*) A pestilent weed in damp soil. N.B. (*Fowler's Cat.*) A very abundant weed throughout the Gaspé peninsula, and the south shore of the St. Lawrence. (*Macoun.*) Fields and pastures, St. Joachim, Q. (*Brunet.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*)

XVI. PARONYCHIEÆ.

87. PARONYCHIA, Tourn. (WHITLOW-WORT.)

(323.) **P. sessiliflora,** Nutt. Hook. Fl. I., 226.

Dry banks of the north Saskatchewan; between Carlton and Edmonston. (*Drummond.*) On dry hills and river banks throughout the southern prairie. (*Macoun.*)

88. ANYCHIA, Michx. (FORKED CHICKWEED.)

(324.) **A. dichotoma,** Michx. Fl. I., 113.

A. Canadensis, Elliott. Hook. Fl. I., 226.

This plant is introduced into the catalogue on the authority of Hooker, who is followed by Torrey & Gray. We have no direct proof of its occurrence within our limits.

89. SCLERANTHUS, Linn. (KNAWEL.)

(325.) **S. annuus,** Linn. Pursh, 315.

Introduced at a few points. Three Rivers, Q. (*Maclagan.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*)

XVII. PORTULACACEÆ. PURSLANE FAMILY.

90. PORTULACA, Tourn. (PURSLANE.)

(326.) **P. oleracea,** Linn. Common Purslane.

Introduced and become a pestilent weed in all market gardens. Owing to its tenacity of life and the power of ripening its seeds long after it has been rooted up, it is very difficult to get rid of. It is found in waste places and in gardens wherever cultivation has been attempted.

91. LEWISIA, Pursh.

(327.) **L. rediviva,** Pursh.

Abundant on the dry, arid soil around Ashcroft, Thompson River, B.C.

(*Hill & Macoun.*) Nicola Valley, and elsewhere in the dry southern interior of B.C. (*Dawson.*)

92. CLAYTONIA, Linn. (SPRING BEAUTY.)

(328.) **C. linearis,** Dougl. Hook. Fl. I., 224.

Abundant on Vancouver Island and as far north on the mainland as Black Water River and even to the Nechacco. (*Macoun.*)

(329.) **C. parvifolia,** Moç.

C. filicaulis, Dougl. Hook. Fl. I., 224.

Rocks; Nootka and Queen Charlotte Islands, on the north-west coast of America. (*Menzies.*) Around Victoria, Vancouver Island. (*Macoun.*) Queen Charlotte Islands. (*Dawson.*)

(330.) **C. Virginica,** Linn. Spring Beauty.

Rich woods. Pictou and Truro, N. S. (*Lawson.*) Vicinity of Bathurst, N.B. (*McGill Coll. Herb.*) Near Montreal. (*Cleghorn.*) Very abundant in Ontario. (*Macoun.*) Saskatchewan. (*Drummond.*) Kotzebue Sound. (*Rothr. Alask.*)

(331.) **C. Caroliniana,** Michx. Broad-leaved Spring Beauty.

C. Virginica, var. *spathulæfolia,* DC. Hook. Fl. I., 224.
C. spathulæfolia, Salisb. Pursh. 175.

More northern than the preceding. Abundant in Nova Scotia. (*Sommers.*) Found at Oxbow, Salmon River; Blackville, Miramichi, N.B., but not common. (*Fowler's Cat.*) Vicinity of Bathurst, N.B. (*McGill Coll. Herb.*) Woods near Cape Despair, Gaspé. (*Ells.*) Common throughout Quebec. (*Brunet.*) Abundant in eastern Ontario. (*Macoun.*) Saskatchewan. (*Drummond.*)

Var. **sessilifolia,** Torrey.

C. lanceolata, Pursh. Hook. Fl. I., 224.

Valleys of the Rocky Mountains, in rich soil. (*Drummond.*) Rocky Mountains in the S. Kootanie Pass. (*Dawson.*) On the mountains of British Columbia. (*Cowley.*)

(332.) **C. Sibirica,** Linn.

C. alsinoides, Sims. Hook. Fl. I., 225.
C. Unalaschkensis, Fisch. Hook. Fl. I., 225.
? *C. asarifolia,* Bong. Torr. & Gray, Fl. I., 200.

Very abundant along the whole west coast of British Columbia, from the southern boundary to Cape St. Elias and Sitka.

(333). **C. perfoliata,** Donn. Hook. Fl. I., 225.

Vancouver Island and in the interior of British Columbia, above Clinton. (*Macoun.*) Cascade Mountains. (*Dawson.*)

Var. **parviflora,** Torrey.

C. parviflora, Dougl. Hook. Fl. I., 225.
C. gypsophiloides, Fisch. & Mey. Torr. & Gray, Fl. I., 200.

Common around Victoria, Vancouver Island, and up the Fraser, B.C. (*Macoun.*)

Var. **(spathulata,)** Torrey.

C. spathulata, Dougl. Hook. Fl. I., 226.

On Cedar Hill and other localities around Victoria, Vancouver Island. (*Macoun & Hill.*)

(334.) **C. exigua,** Torr. & Gray, Fl. I., 200.

C. tenuifolia, Torr. & Gray, Fl. I., 201.

On Cedar Hill and around Victoria, Vancouver Island. (*Macoun.*)

(335.) **C. Chamissonis,** Esch.

C. aquatica, Nutt. Torr. & Gray, Fl. I., 201.
C. flagellaris, Bong. Rothr. Alask., 446.

Ounalashka Island and Sitka. (*Rothr. Alask.*) Nachacco River, in pools of water, growing on mud. Northern British Columbia. (*Macoun.*)

(336.) **C. dichotoma,** Nutt. Torr. & Gray, Fl. I., 202.

Wet, rocky places, near Victoria, Vancouver Island. (*Macoun.*)

(337.) **C. sarmentosa,** C. A. Meyer.

Cape Lisburne and Kotzebue Sound. (*Rothr. Alask.*)

93. CALANDRINIA, H B K.

(338.) **C. Menziesii,** Hook.

Talinum Menziesii, Hook. Fl. I., 223.
C. speciosa, Lindl. Torr. & Gray, Fl. I., 197.

On rocks near Victoria, Vancouver Island. (*Macoun.*)

(339.) **C. pygmæa,** Gray.

Talinum pygmæum, Gray. Macoun's Cat., No. 305 & 308.

May be looked for on the mountains along the southern boundary of British Columbia.

94. MONTIA, Linn.

(340.) **M. fontana,** Linn.

Labrador. (*Gmelin.*) Newfoundland. (*Pylaie.*) Near Ste. Anne des Monts, Gaspé, on the coast. (*O. D. Allen.*) Vancouver Island, near Victoria, in pools. (*Macoun.*) Sitka, Ounalashka, Norton Sound and Kotzebue Sound. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*

95. SPRAGUEA, Torr.

(341.) **S. umbellata,** Torr.

To be looked for along the southern boundary of British Columbia.

XVIII. ELATINEÆ. Water-Wort Family.

96. ELATINE, Linn. (WATER-WORT.)

(342.) **E. Americana,** Arn.

Peplis Americana, Pursh, 238.

On earth, on the margin of a dry pool, at the northern end of Reed Lake, Lat. 50° 35′; Long. 107° 20′, N.W.T. (*Macoun.*)

XIX. HYPERICACEÆ. St. John's Wort Family.

97. HYPERICUM, Linn. (ST. JOHN'S WORT.)

(343.) **H. pyramidatum,** Ait. Great St. John's Wort.

H. ascyroides, Willd. Hook. Fl. I., 109.
H. macrocarpum, Michx. Fl. II., 82.

Low grounds, on rich soil. About Montreal and Quebec. (*Michaux.*) Lachine, near Montreal. (*Brunet.*) Swamp, St. Denis St., Montreal. (*Holmes.*) Roadside, north of Madoc, Hastings Co.; Rice Lake Plains, Ont. (*Macoun.*) Vicinity of London, Ont.; common. (*Saunders.*) Bayfield River, Huron Co., Ont. (*Gibson.*) Fullarton, Ont. (*Buchan.*) Plains of the Saskatchewan. (*Bourgeau.*)

(344.) **H. Kalmianum,** Linn. Shrubby St. John's Wort.

From Niagara Falls to the Sault Ste. Marie, along Lakes Erie and Huron; abundant. Muskoka, Ont. (*Burgess.*)

(345.) **H. ellipticum,** Hook. Fl. I., 110.

This fine species extends from Nova Scotia to Lake Winnipeg, and is quite common in Quebec and the northern part of Ontario.

(346.) **H. perforatum,** Linn. Common St. John's Wort.

Introduced into pastures and by roadsides from Europe. It extends from Nova Scotia to western Ontario.

(347.) **H. corymbosum,** Muhl. Corymbed Hypericum.

H. maculatum, Michx. Fl. II., 80.
H. micranthum, Chois. Hook. Fl. I., 109.

Low, damp meadows; rather common. Halifax, N.S. (*Lawson.*) Near Quebec, and Island of Orleans. (*Brunet.*) Island of Montreal, Nicolet, and Belœil, Q. (*Maclagan.*) Very abundant along the Bruce peninsula of Lake Huron, and general throughout Ontario. (*Macoun.*)

(348.) **H. mutilum,** Linn.

H. quinquenervium, Walt. Michx. Fl. II., 79. Hook. Fl. I., 110.
H. parviflorum, Willd. Pursh. 377.

Low grounds along river banks, and in moist fields. Abundant from Nova Scotia to Lake Winnipeg.

(349.) **H. Canadense,** Linn. Hook. Fl. I., 110.

Wet ground, in sandy soil. Newfoundland. (*Morrison.*) This species has nearly the same range as the last; but is not found in the same situations, as this one seems to prefer, in Ontario, wet, sandy soil.

(350.) **H. Scouleri,** Hook. Fl. I., 111.

Dry, gravelly soils. Rocky Mountains, in the S. Kootanie Pass. (*Dawson.*) North-west coast of America. (*Scouler.*) Interior of British Columbia. (*Cowley.*)

(351.) **H. anagalloides,** Cham. & Schlecht.

In a low, springy place on the top of the Cypress Hills, N.W.T. (*Macoun.*) To be looked for along the southern boundary of British Columbia.

(352.) **H. Sarothra,** Michx. Fl. II., 79.

In Torr. & Gray, Fl. I., 165, this species is recorded as a native of Canada. We have no proof of its occurrence, but it may be found on sandy soil along Lake Erie.

98. ELODES, Adns. (MARSH ST. JOHN'S WORT.)

(353.) **E. Virginica,** Nutt.

Hypericum Virginicum, Linn. Hook. Fl. I., 109.
Elodes campanulata, Pursh. 379.

Marshes and borders of woodland brooks and stagnant pools. Common from Nova Scotia to Lake Winnipeg, and northward towards Hudson's Bay.

XX. MALVACEÆ. MALLOW FAMILY.

99. MALVA, Linn. (MALLOW.)

(354.) **M. rotundifolia,** Linn. Common Mallow.

Introduced. Common along roadsides, in waste places around dwellings, and in gardens, from Nova Scotia to western Ontario.

(355.) **M. sylvestris,** Linn. High Mallow.

Introduced. Spontaneous in gardens and waste places around dwellings. Escaped from gardens in a few places, N.B. (*Fowler's Cat.*) Prescott, rare. (*Billings.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Waste places at Belleville, Ont.; Fort Francis, Rainy River, Dawson Route. (*Macoun.*) Near Kemptville, Ont. (*McGill Coll. Herb.*)

(536.) **M. crispa,** Linn. Crisped Mallow.

Spontaneous in some old gardens. Pictou, N.S., rare. (*McKay.*) Sometimes found near dwellings, N.B. (*Fowler's Cat.*) Ottawa, in gardens. (*Fletcher, Fl. Ott.*) Gardens and waste places at Belleville; and Seymour, Northumberland Co., Ont. (*Macoun*).

(357.) **M. moschata,** Linn. Musk Mallow.

Roadsides and pastures; common. Pictou, N.S. (*McKay.*) Spontaneous in gardens, N.B. (*Fowler's Cat.*) St. Jerome and Montreal. (*McGill Coll. Herb.*) Escaped from gardens at Belleville, Colborne, Rice Lake Plains, London and Owen Sound, Ont. (*Macoun.*) Waste places around Ottawa. (*Fletcher, Fl. Ott.*) Island in Detroit River. (*Maclagan.*) Vicinity of Hamilton, Ont. (*Buchan.*) Roadsides, Barrie, Ont. (*Spotten.*) Very common around London. (*Burgess.*)

(358.) **M. borealis,** Wallm. Northern Mallow.

M. obtusa, Torr. & Gray, Fl. I., 225.

Introduced at Sackville, N. S. (*Lawson.*)

100. MALVASTRUM, Gray. (FALSE MALLOW.)

(359.) **M. Munroanum,** Gray.

Malva Munroana, Dougl. Hook. Fl. I., 106.

To be looked for along the southern boundary of British Columbia.

(360.) **M. coccineum,** Gray. Prairie Mallow.

Cristaria coccinea, Pursh, 454.
Sida coccinea, DC. Hook. Fl. I., 108.

Very common on dry clay or gravelly soil in most of the prairie region from Brandon westward.

101. SIDALCEA, Gray.

(361.) **S. malvæflora,** Gray.

Sida malvæflora, DC. Hook. Fl. I., 108.
Sida Oregana, Nutt. Torr. & Gray, Fl. I., 234.

Vicinity of Victoria, Vancouver Island, rare. (*Hill.*) Mainland, B.C. (*Jones.*)

102. ABUTILON, Tourn. (INDIAN MALLOW.)

(362.) **A. Avicennæ,** Gærtn. Velvet-leaf.

Sida Abutilon, Linn. Pursh, 453.

Introduced. Waste places, old gardens and potato fields; common around Belleville. (*Macoun.*) Vicinity of Dundas, Ont. (*Logie.*) Around Ottawa. (*Fletcher, Fl. Ott.*) Carleton Place, Ont. (*McGill Coll. Herb.*) Vicinity of London, Ont. (*Burgess.*)

103. HIBISCUS, Linn. (ROSE MALLOW.)

(363.) **H. Moscheutos,** Linn. Swamp Rose Mallow.

H. palustris, Linn. Hook. Fl. I., 107.

On land, subject to floods. Said, by Gray, to grow near brackish water. Island in the Detroit River. (*Maclagan.*) Marsh where the road enters on Pelee Point, in coming from Leamington, Ont. (*Macoun.*) Roadside near Windsor, Ont. (*Dr. Kemp.*)

(364.) **H. Trionum,** Linn. Bladder Ketmia.

Escaped from gardens, rare, Pictou, N.S. (*McKay.*) Spontaneous

in a few gardens and waste places at Belleville. (*Macoun.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*.) Malden, Ont. (*Maclagan.*) Vicinity of Woodstock, Ont. (*Millman.*)

104. SPHÆRALCEA, St. Hilaire.

(365.) **S. rivularis,** Torr.

Malva rivularis, Dougl. Hook. Fl. I., 107.
S. accrifolia, Nutt. Torr. & Gray, Fl. I., 228. Macoun's Cat., No. 313.

Common on banks from the Pacific to the Rocky Mountains. (*Douglas.*) Waterton Lake, Lat. 49°, Rocky Mountains. (*Dawson.*)

Excluded Species.

Sida hederacea, Torr.

Malva hederacea, Dougl. Hook. Fl. I., 107.

This species, although in Hooker's Flora, is south of our limits.

XXI. TILIACEÆ. LINDEN FAMILY.

105. TILIA, Linn. (LINDEN. BASSWOOD.)

(366.) **T. Americana,** Linn. Basswood.

T. glabra, Vent. Hook. Fl. I., 108.
T. Canadensis, Michx. Fl. II., 306.

Shore of Grand Lake, at Woodstock and along the St. John River, N.B. (*Fowler's Cat.*) Quebec. (*Brunet.*) On Montreal Mountain, 1821. (*Holmes.*) River Rouge, Q. (*D'Urban.*) Abundant throughout Ontario, and, as a low tree, as far west as the Lake of the Woods. (*Macoun.*) Norway House, at the north end of Lake Winnipeg. (*Richardson.*) In the lower valley of the Assiniboine. (*Macoun.*)

Var. **pubescens,** Loud.

T. pubescens, Ait. Hook. Fl. I., 108.
T. laxiflora., Michx. Fl. II., 306.

About Quebec. (*Mrs. Shepherd.*) Shores of Lake St. Clair, and near Sandwich, Ont. (*Douglas.*)

(367.) **T. Europæa,** Linn. European Linden.

Planted in Pictou and Halifax, N.S. (*McKay.*) Extensively planted about Fredericton, N. B. (*Fowler's Cat.*) Planted in the streets of many towns in Ontario. Well suited to our climate.

XXII. LINACEÆ. Flax Family.

106. LINUM, Linn. (FLAX.)

(368.) **L. Virginianum,** Linn.

Dry woods or sandy thickets. Vicinity of Hamilton. (*Logie.*) Canada Southern Railway, one mile east of the Great Western crossing near Niagara Falls. (*Macoun.*) Lake Huron. (*Todd.*)

(369.) **L. striatum,** Walter.

L. rigidum, Torr. & Gray, Fl. I., 204, in part.

Wet or boggy grounds along the Great Lakes. Toronto Island; shores of Lake Huron, Red Bay, Fishing Islands and Oliphant, Bruce Peninsula, Ont. (*Macoun.*)

(370.) **L. sulcatum,** Riddel.

L. rigidum, Torr. & Gray, Fl. I., 204, in part.
L. Boottii, Planch. Gray, Manual, 1856.

Dry sandy soil, apparently rare. Rice Lake Plains, near Castleton, Northumberland Co.; Oak Hills, Hastings Co., Ont. On sand in the Qu'Appelle Valley, a little west of the bridge at Fort Ellice, N.W.T. (*Macoun.*)

(371.) **L. rigidum,** Pursh, 210.

On dry clay soil, rather common on the southern prairie. (*Macoun.*) Abundant on the plains of the interior, especially about the Saskatchewan. (*Richardson.*) Milk River and Woody Mountain, N. W. T. (*Dawson.*)

(372.) **L. perenne,** Linn. Prairie Flax.

L. Lewisii, Pursh, 210.

Very common throughout the prairie region and west to the Pacific Ocean, and north to the shores of the Arctic Sea. Reported from Marmora Lake, Ont., but this is doubtful.

(373.) **L. usitatissimum,** Linn. Cultivated Flax.

Introduced into many fields and becoming common along all our railways, from Nova Scotia westward.

XXIII. GERANIACEÆ. GERANIUM FAMILY.

107. GERANIUM, Linn. (CRANESBILL.)

(374.) **G. maculatum,** Linn. Wild Cranesbill.

Open woods and fence borders. Harbor Grace, Nfld. (*McGill Coll. Herb.*) Halifax Co., N.S. (*McKay.*) On Montreal Mountain, and at Knowlton, Eastern Townships, Q. Mouth of Rainy River, Dawson Route. (*McGill Coll. Herb.*) Common throughout Ontario and westward to Rainy River.

(375.) **G. Richardsoni,** Fisch. & Mey.

G. albiflorum, Hook. Fl. I., 116.
G. Hookerianum, Walp. Pl. Bourgeau, 255. Macoun's Cat., No. 326.

Valleys of the Rocky Mountains. (*Drummond.*) Foot hills of the Rocky Mountains near the 49th parallel; summit of Pine River Pass, Lat. 55°. (*Dawson.*) On the borders of coulées and in thickets in the southern prairie region, and especially in ravines on the Cypress Hills, N.W.T. (*Macoun.*)

(376.) **G. Fremonti,** Torrey.

Woody Mountain in sheltered valleys, abundant. Also growing abundantly in the foothills of the Rocky Mountains. (*Dawson.*) Very abundant at Fort Walsh and the "Head of the Mountain" and western slope of the Cypress Hills, also in the foothills of the Rocky Mountains on Bow River. (*Macoun.*)

(377) **G. incisum,** Nutt.

G. albiflorum var. (?) *incisum,* Torr. & Gray, Fl. I., 206.

Nicola Valley, B.C. (*Dawson.*) Near Spence's Bridge, B.C. (*Hill.*)

(378.) **G. erianthum,** DC.

G. maculatum, var. *β.*, Hook. Fl. I., 116.

North-west America. (*Douglas.*) Sitka and Ounalashka. (*Rothr. Alask.*)

(379.) **G. pratense,** Linn. Meadow Cranesbill.

Escaped from cultivation near St. John, N.B. (*Fowler's Cat.*)

(380.) **G. Carolinianum,** Linn. Carolina Cranesbill.

Very abundant in lately burnt woods and in thickets along river

banks and sandy or barren soil from Nova Scotia to the Pacific, and far to the north.

(381.) **G. Robertianum,** Linn. Herb Robert.

Moist woods and shaded rocky ravines. Pictou and other parts of Nova Scotia, rather common. (*McKay.*) Lower Norton, and Quaco Cliffs, N.B. (*Fowler's Cat.*) Coast of Gaspé above Point Fame and westward throughout Quebec and Ontario to the Lake of the Woods. (*Macoun.*)

(382.) **G. pusillum,** Linn. Small-flowered Cranesbill.

Introduced from Europe in the neighborhood of cities and towns. Vicinity of London, Ont. (*Burgess.*) Vicinity of Hamilton, Ont. (*Buchan.*) In the streets of Victoria, Vancouver Island. (*Macoun.*)

(383.) **G. molle,** Linn. Soft Cranesbill.

Introduced from Europe. Very common around Victoria, Vancouver Island. (*Macoun.*)

108. ERODIUM, L'Her. (STORKESBILL.)

(384.) **E. cicutarium,** L'Her.

Very abundant around Victoria, Vancouver Island. (*Macoun & Hill.*) Naturalized at Ottawa. (*Fletcher Fl. Ott.*) In the vicinity of Hamilton, Ont. (*Buchan.*) Neighborhood of London, Ont. (*Burgess.*)

(385.) **E. moschatum,** Willd. Musky Storksbill.

Naturalized in some gardens at Ottawa. (*Fletcher.*) Growing wild in a garden at Lake La Mab, Hastings Co., Ont. (*Macoun.*)

109. FLŒRKEA, Willd. (FALSE MERMAID.)

(386.) **F. proserpinacoides,** Willd.

F. uliginosa, Muhl. Macoun's Cat., No. 332.
Nectris pinnata, Pursh, 239.

In low, rich woods and on river margins. Nun's Island, near Montreal. (*Holmes.*) Low, rich woods, vicinity of London, Ont. (*Burgess.*) Abundant on an island in the Detroit River opposite Amherstburgh, Ont. On the margin of pools in the vicinity of Victoria, Vancouver Island. (*Macoun.*)

110. IMPATIENS, Linn. (WILD BALSAM.)

(387.) **I. fulva,** Nutt. Spotted Touch-me-not.

I. biflora, Walt. Pursh, 171.
I. nolitangere, β., Michx. Fl. II., 149.

Throughout Canada; and as far north as Bear Lake, Lat. 66°. (*Richardson.*) Abundant around springs and in small rills from the Magdalen Islands and Nova Scotia to the Peace River.

(388.) **I. pallida,** Nutt. Pale Touch-me-not.

I. nolitangere, Michx. Fl. II., 149.

Cedar swamps, along rills, and by springs. Montreal Mountain. (*Holmes.*) Gaspé coast at Mont St. Louis; abundant at Niagara Falls, below the Clifton House; Royston Park, Owen Sound. (*Macoun.*) Burlington Bay, Lake Ontario. (*Logie.*) St. Catherines, Ont. (*Maclagan.*) Western Ontario on Lake Huron. (*Gibson.*) Vicinity of London, Ont. (*Burgess.*) Plains of the Saskatchewan. (*Bourgeau.*) St. John's, Peace River. (*Macoun.*)

111. OXALIS, Linn. (WOOD-SORREL.)

(389.) **O. Acetosella,** Linn. Common Wood-Sorrel.

Deep, cold woods, from Nova Scotia through New Brunswick, Quebec and northern Ontario to the Lake of the Woods. (*Macoun.*) As far north as the Saskatchewan. (*Richardson.*)

(390.) **O. Oregana,** Nutt.

O. Acetosella. Hook. Fl. I., 118, in part.

North-west coast of America. (*Douglas.*) Woods on the Lower Fraser, B.C. (*Cowley.*)

(391.) **O. corniculata,** Linn.

O. pilosa & pumila, Nutt. in Torr. & Gray, Fl. I., 212.

Freshwater, near Halifax, N.S. (*McGill Coll. Herb.*) On dry soil at various points in the southern prairie region; not common. (*Macoun.*) On the Saskatchewan plains. (*Bourgeau.*)

Var. **stricta,** Sav.

O. stricta, Linn. Hook. Fl. I., 118. Macoun's Cat., No. 335.
O. Dillenii, Jacq. Pursh, 323.
O. Lyoni, Pursh, 322.

Common along river margins, amongst gravel, from Nova Scotia to

the Lake of the Woods. Also, at Emerson, Manitoba. Distinguished from the type by the absence of stipules. This species should be carefully examined when found, and distinguishing characters noted.

XXIV. RUTACEÆ. Rue Family.

112. XANTHOXYLUM, Colden. (PRICKLY ASH.)

(392.) **X. Americanum,** Mill. Northern Prickly Ash.

X. fraxineum, Willd. Hook. Fl. I., 118.
X. ramiflorum, Michx. Fl. II., 235.
X. tricarpum, Hook. Fl. 118, not Michx.

Low grounds, usually along streams, common from Montreal (*Brunet*) to the western part of Ontario, along the Georgian Bay.

113. PTELEA, Linn. (HOP TREE.)

(393.) **P. trifoliata,** Linn. Shrubby Trefoil.

Confined to the shores of Lake Erie. Pelee Island and west side of Pelee Point. (*Macoun.*)

114. ALIANTHUS, Desf. (TREE OF HEAVEN.)

(394.) **A. glandulosus,** Desf.

This tree has been planted in Prince Edward Co., Ont., at Belleville, and at Niagara Falls. In all these localties it grows freely, and throws up suckers from its roots. It seems as much at home as the Locust tree.

XXV. ILICINEÆ. Holly Family.

115. ILEX, Linn. (HOLLY.)

(395.) **I. verticillata,** Gray.

Prinos verticillatus, Linn. Hook. Fl. I., 121.
P. Gronovii, Michx. Fl. II., 236.

Low grounds and swamps. Common in Nova Scotia. (*McKay.*) Not rare in swamps. (*Fowler's Cat.*) Borders of marshes, Gaspé Basin. (*Macoun.*) On gneiss rocks and swamps in open places, River

Rouge, Q. (*D'Urban.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Moist thickets and swamps near Prescott Junction, Ont. (*Billings.*) Borders of ponds and marshes throughout central Ontario. (*Macoun.*) Wolfe Island, Chippewa, and Malden, Ont. (*Maclagan.*) Vicinity of London, Ont. (*Burgess.*)

116. NEMOPANTHES, Raf. (MOUNTAIN HOLLY.)

(396.) **N. Canadensis,** DC.

Ilex Canadensis, Michx. Fl. II., 229.

Cold, wet woods and swamps. Halifax Co. and Pictou, N.S. (*McKay.*) In cold, wet woods N.B.; common. (*Fowler's Cat.*) Abundant in woods, Gaspé peninsula. (*Macoun.*) Rivière du Loup, Q. (*Thomas.*) Common on gneiss rocks and in swamps, River Rouge, Q. (*D'Urban.*) Swamps around Ottawa; common. (*Fletcher Fl. Ott.*) Moist ground near Prescott Junction, Ont.; rare. (*Billings.*) Peat bog, 5 miles north of Colborne; swamps near Partridge Lake, Addington Co.; tamarac swamp, North Hastings, Ont. (*Macoun.*) Vicinity of London, Ont.; very common in Muskoka. (*Burgess.*)

Excluded Species.

Ilex opaca, Ait., and *I. glabra,* Gray, are reported from Halifax, N.S., by Dr. Sommers, in a catalogue of Nova Scotian plants, published in the Proceedings of the Nova Scotia Institute of Natural Sciences, 1875-76. Hooker, on the authority of Pursh, credits those species to Canada. I exclude them on the ground of insufficient evidence, and because their range in the United States is south of our limits.

XXVI. CELASTRACEÆ. STAFF-TREE FAMILY.

117. CELASTRUS, Linn. (STAFF-TREE.)

(397.) **C. scandens,** Linn. Wax-work. Bitter-Sweet.

C. bullatus, Linn. Pursh, 168.

On the borders of rivers in Quebec. (*Brunet.*) On Montreal mountain. (*McGill Coll. Herb.*) Common in Ontario; climbing high over bushes and young trees, in thickets, and along rivers, from Ottawa (*Fletcher*) to Mamaisne, east coast of Lake Superior. (*R. Bell.*) Valley of the Assiniboine, east of Brandon, Man. (*Macoun.*)

118. EUONYMUS, Tourn. (SPINDLE-TREE.)

(398.) **E. Americanus,** L. var. **obovatus,** Torr. & Gray.

Low, wet places in the western peninsula of Ontario. Near Amherstburgh, and on the line of the Canada Southern Railway, at Bismark, Ont. (*Macoun*) Hills around Niagara Falls. (*Maclagan.*) Banks of Lake St. Clair. (*Douglas.*) Mountain side, near Mr. Whyte's house, Hamilton. (*Logie.*) Vicinity of London. (*Burgess.*) The typical form may be found at Niagara.

(399.) **E. atropurpureus,** Jacq. Burning Bush.

Shady woods or open thickets. On White Island, opposite Amherstburgh, in the Detroit River. (*Macoun.*) Malden, Ont. (*Maclagan.*)

119. PACHYSTIMA, Raf.

(400.) **P. Myrsinites,** Raf.

Ilex (?) *Myrsinites*, Pursh, 119.
Myginda myrtifolia, Nutt. Hook. Fl. I., 120.
Oreophila myrtifolia, Nutt. Torr. & Gray, Fl. I., 259.

North-west coast of America. (*Menzies.*) Valleys of the Rocky Mountains, particularly abundant near the sources of the Columbia, in Lat. 52° and Long. 118° W. (*Douglas.*) Woods of Portage River, west side of Rocky Mountains. (*Drummond.*) Very abundant on Vancouver Island around Victoria; at Yale on Cascade Mountains, and in the woods northwards to Fort Macleod, B.C., in Lat. 55°. (*Macoun.*) Also generally in localities with cool moist climate at great elevations even in the southern interior of British Columbia. (*Dawson.*)

XXVII. RHAMNACEÆ. Buckthorn Family.

120. CEANOTHUS, Linn. (NEW JERSEY TEA.)

(401.) **C. Americanus,** Linn. Hook. Fl. I., 124.

C. perennis, Pursh, 167.
C. intermedius, Pursh, 167.
C. sanguineus, Nutt. Torr. & Gray, Fl. I., 265.

On dry gravelly hills and along the dry banks of rivers. Abundant throughout Ontario, but apparently unknown eastward.

(402.) **C. ovatus,** Desf.

C. ovalis, Bigel. Macoun's Cat., No. 359.
C. intermedius, Hook. Fl. I., 124, not Pursh.

Dry gravelly banks, very rare. Along the Grand Trunk Railway a little east of Shannonville Station, Hastings Co., St. Norah's Lake, Ridout Township, Victoria Co., Ont. Very abundant on a high terrace 20 miles up the Kaministiqua above Fort William, Lake Superior; Sturgeon Lake, Dawson Route. (*Macoun.*) Gore Bay, Grand Manitoulin Island, Lake Huron. (*J. Bell.*) Upper Canada. (*Goldie.*) Lake Huron. (*Todd.*)

(403.) **C. velutinus,** Dougl. Hook. Fl. I., 125.

Sub-alpine hills near the sources of the Columbia. (*Douglas.*) Along the Fraser above Boston Bar; and on the upper slopes of Stuart Lake Mountain, B.C. (*Macoun.*)

Var. **lævigatus,** Torr. & Gray, Fl. I., 265.

C. lævigatus, Hook. Fl. I., 125.

On the Waggon Road, west of Jackass Mountain, B.C. (*Macoun.*) Rocky Mountains, in the S. Kootanie Pass. (*Dawson.*) Nootka. (*Menzies.*)

(404.) **C. sanguineus,** Pursh, 167.

C. Oreganus, Nutt. Torr. & Gray, Fl. I., 265. Macoun's Cat., No. 358.

Frequent in many parts of British Columbia, from the coast to Stuart Lake. (*Macoun.*)

121. RHAMNUS, Tourn. (BUCKTHORN,)

(405.) **R. alnifolia,** L'Her.

R. franguloides, Michx. Fl. I., 153.
R. alpinus, Richards. in Frankl. Journ., 6, not Linn.

In cold swamps and wet meadows. In swamps, mouth of Eel River, Restigouche; near Green Head, St. John, N.B. Rare. (*Fowler's Cat.*) St. Francis River, N.B. (*Hay.*) Petitcodiac, N.B. (*J. Brittain.*) Common in Quebec and Ontario, and westward in the wooded country to the Rocky Mountains. Oxford House, Knee Lake and Hill River, north of Lake Winnipeg. (*R. Bell.*)

(406.) **R. Purshiana,** DC. Hook. Fl. I., 123.

R. alnifolius, Pursh, 166, not L'Her.

Nootka. (*Menzies.*) To be looked for on Vancouver Island and along the southern boundary of British Columbia.

(407.) **R. cathartica,** Linn. Buckthorn.

Frequently planted for hedges and then left to run wild, as at Belleville and Castleton, Ont.

XXVIII. VITACEÆ. VINE FAMILY.

122. VITIS, Tourn. (GRAPE.)

(408.) **V. Labrusca,** Linn. Northern Fox-Grape.

Moist thickets, along Lake Erie. Abundant on Pelee Point and Pelee Island. (*Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*)

(409.) **V. cordifolia,** Lam. Frost Grape.

V. vulpina, Muhl. Hook. Fl. I., 115.

Annapolis, N.S. (*Lawson.*) Very abundant throughout Ontario; and often producing almost impenetrable thickets in river and stream valleys. Frequent in Quebec, from the Island of Orleans westward. Valley of the Red River, near Emerson. (*Dawson.*) Said to grow in profusion in the valley of the Assiniboine and north-west of Portage la Prairie, Man. The writer has never noticed it in any part of the North-west, except the Assiniboine valley.

(410.) **V. riparia,** Michx. Fl. II., 231.

V. cordifolia, var. *riparia*, Gray, Manual, 113.

This and the preceding species grow in the same situations, and are often confounded, This species may be easily known by its deeply lobed, smaller and thinner leaves. On the shore of Grand Lake, N.B. (*Fowler's Cat.*) Frequent in western Ontario. (*Macoun.*) Extending to the south end of Lake Winnipeg, in Lat. 52°. (*Richardson.*)

123. AMPELOPSIS, Michx. (VIRGINIAN CREEPER.)

(411.) **A. quinquefolia,** Michx. Hook. Fl. I., 114.

Cissus hederacea, Pers. Pursh, 170.

River banks and low thickets, from Grosse Isle, Quebec, to the valley of the Assiniboine, Man. Common in cultivation. Not reported from the Maritime Provinces, except as a cultivated species.

XXIX. SAPINDACEÆ. Soapberry Family.

124. STAPHYLEA, Linn. (BLADDER-NUT.)

(412.) **S. trifolia,** Linn. American Bladder-Nut.

Moist or rich thickets, and river banks. St. Martin's, Quebec. (*Holmes.*) Frequent, from Ottawa to the Georgian Bay. A beautiful shrub and worthy of cultivation.

125. ŒSCULUS, Linn. (HORSE-CHESTNUT,)

(413.) **Œ. Hippocastanum,** Linn. Horse-chestnut.

This tree is extensively cultivated from the Atlantic to Lake Huron. The native species have been introduced in a number of places and succeed well. Œ. glabra, Willd. (Ohio Buckeye) is seen at Trenton and Toronto, and the Red Buckeye in Toronto and London.

125. ACER, Tourn. (MAPLE.)

(414.) **A. Pennsylvanicum,** Linn. Striped Maple.

A. striatum, DuRoi. Pursh, 267.

Cool, rocky, or sandy woods. Not scarce in Nova Scotia. (*McKay.*) Rich woods, N.B. Common. (*Fowler's Cat.*) Very common in Quebec and northern Ontario, and west to Lake Superior.

(415.) **A. spicatum,** Lam. Mountain Maple.

A. montanum, Ait. Hook. Fl. I., 111.

Newfoundland. (*Morrison.*) Very common in damp or wet woods, from Nova Scotia to the western part of Lake Winnipegosis and Red Deer River and Porcupine Mountain, Man., Lat. 53°. (*Macoun.*) James's Bay and north-westward to Island Lake, above York Factory. (*R. Bell.*)

(416.) **A. macrophyllum,** Pursh. Broad-leaved Maple.

This species grows to a large size on Vancouver Island and in the valley of the Fraser, below Yale, B.C. It is a magnificent tree and must be very beautiful in cultivation.

(417.) **A. circinatum,** Pursh. Vine Maple.

Very common in the lower valley of the Fraser and on Vancouver

Island. This species forms almost impenetrable thickets in the forests on the west coast.

(418.) **A. glabrum,** Torrey.

A. barbatum, Dougl. Hook. Fl. I., 113.
A. tripartitum, Nutt. Torr. & Gray, Fl. I., 247.

Valleys, near springs, on the west side of the Rocky Mountains, about the sources of the Columbia. (*Douglas.*)' Vancouver Island and at Spence's Bridge, B. C. In the Bow River Pass, above Morley. (*Macoun.*) S. Kootanie Pass and mountains near Waterton Lake. (*Dawson.*)

(419.) **A. saccharinum,** Wang. Sugar Maple.

A. barbatum, Michx. Fl. II., 252.

Head of the Bay of St. George, Nfld. (*J. Bell.*) Very common in suitable localities, from Nova Scotia to the western end of Lake Superior, and thence in a few isolated patches to the Lake of the Woods. Northward, it extends to Lake St. John and Lake Temiscamang on the Ottawa. North of Lake Superior, it extends to the Long Portage on the Michipicotin River. (*R. Bell.*)

Var. **nigrum,** Torr. & Gray, Fl. I., 248.

A. saccharinum, Michx. Fl. II., 252.
A. nigrum, Michx. f. Arbr. Amer. II., 238.

Apparently a common tree, from Ottawa, westward throughout Ontario. It may be known from the ordinary form by its paler and more pubescent leaves.

(420.) **A. dasycarpum,** Ehrh. Silver, or White Maple.

A. eriocarpum, Michx. Fl. II., 253.

Apparently a rare tree in the east. A few trees at Harris' Cove on the Kennebeccasis; vicinity of Fredericton, N.B.; mouth of the Nashwaaksis, and shore of Grand Lake. (*Fowler's Cat.*) Rare along the River St. Francis, Q. (*Brunet.*) Very abundant from Ottawa westward, throughout Ontario. In the neighborhood of Belleville it is particularly abundant, and the fine shade trees which adorn that city are taken from the low grounds in the vicinity. (*Macoun.*)

(421.) **A. rubrum,** Linn. Red, or Soft-Maple.

A. coccineum, Michx. f. Arbr. Amer. II., 203.

Very common in swamps and low woods from the Atlantic to the Mud Portage on the Dawson Route. Slightly more northern in its range than the sugar maple. (*R. Bell.*)

126. NEGUNDO, Mœnch. (ASH-LEAVED MAPLE.)

(422.) **N. aceroides,** Mœnch. Box-Elder.

Acer Negundo, Linn. Pursh, 268.
Negundo fraxinifolium, Nutt. Hook. Fl. I., 114.

A few trees of this species are found near Toronto, in the valley of the Humber, about two miles from its mouth. Eleven miles up the Kaministiquia, west of Lake Superior. On an island in the Lake of the Woods. Abundant in all the valleys of the tributaries of the Red River and of the Saskatchewan, coming from the south; also abundant on the streams flowing into Lake Winnipegosis. It grows very rapidly when planted in any part of Ontario. This is the "sugar maple" of Manitoba and the North-west, and is destined to be the shade tree of all the prairie cities.

XXX. ANACARDIACEÆ. Sumach Family.

127. RHUS, Linn. (SUMACH.)

(423.) **R. typhina,** Linn. Stag-horn Sumach.

R. viridiflora, DC. Prod. II., 67.

On dry, rocky, or gravelly knolls, or along river margins, or in fence corners. Common in suitable localities, from Nova Scotia to the west coast of Lake Huron.

(424.) **R. glabra,** Linn. Smooth Sumach.

Canada, and as far north as the Saskatchewan. (?) (*Richardson.*) Chain Lakes, N.S. (*Sommers.*) Vicinity of London, Ont. (*Saunders.*) Very abundant on dry, rocky ground, along the Rivers Moira and Trent; also, at Queenston Heights and around Amherstburg, Ont.; Lake Nemikin, Dawson Route, west of Lake Superior. (*Macoun.*) Very likely overlooked in many parts of the country.

(425.) **R. copallina,** Linn. Dwarf Sumach.

Rocky places; very rare in Canada. Thousand Islands, River St. Lawrence. (*Rev. J. K. McMorine.*)

(426.) **R. venenata,** DC. Poison Sumach.

Occasional in swamps in western Ontario; Westminster Ponds, London, Ont. (*Burgess.*) Swamps near Weston, Ont. (*Tyrrell.*)

(427.) **R. Toxicodendron,** Linn. Poison Ivy.

R. Toxicodendron, var. *quercifolium*, Michx. Fl. I., 183.

Common in thickets and in fence corners, from Nova Scotia to the Saskatchewan, at Fort Edmonton. (*Macoun.*) Woods near Yale, B.C. (*Hill.*)

Var. **radicans,** Torrey.

R. radicans, Linn. Hook. Fl. I., 127.
R. Toxicodendron, var. *a, vulgare*, Michx. Fl. I., 183.

Climbing frequently over fifty feet up both dead and living trunks, in the forest west of St. Thomas, on the line of the Canada Southern Railway, Ont. (*Macoun.*) Vicinity of London, Ont. (*Burgess.*) A very distinct variety, which almost deserves the rank of a species.

(428.) **R. diversiloba,** Torr. & Gray.

R. lobata, Hook. Fl. I., 127, not Poir.

On the outskirts of woods in dry soils of North-west America. (*Douglas.*)

(429.) **R. aromatica,** Ait. Fragrant Sumach.

Dry soil along river banks and on waste, rocky ground. Abundant along the rivers Moira and Trent, Rice Lake Plains, and at Amherstburg, Ont. (*Macoun.*) Banks of Niagara and Detroit Rivers. (*Maclagan.*) Wolfe Island, opposite Kingston; Whiskey Island, Lake Huron. (*J. Bell.*) Maline River, Dawson Route. (*Macoun.*)

Var. **trilobata,** Gray.

R. trilobata, Nutt. Torr. & Gray, Fl. I., 219.

Dry, barren soil on river banks. At the Elbow of the South Saskatchewan, near Strong Current Creek, N.W.T. (*Macoun.*) Bad lands south of Woody Mountain, and eastward to Pyramid Creek on the 49th parallel. (*Dawson.*)

XXXI. LEGUMINOSÆ. Pea Family.

128. THERMOPSIS, R. Brown.

(430.) **T. rhombifolia,** Richards.

Cytisus rhombifolius, Nutt. Pursh, 741.

Abundant on dry, open prairie, from Manitoba to the Rocky Mountains. Especially common northwest-ward from Moose Mountain to

Edmonton. (*Macoun.*) First Crossing of the Souris River and westward, in damp spots on the prairie and hillsides, N. W. T. (*Dawson.*)

(431.) **T. montana,** Nutt.

T. fabacea, Hook. Fl. I., 128, not DC. Macoun's Cat., No. 489.

To be looked for along the southern boundary of British Columbia.

129. LUPINUS, Tourn. (LUPINE.)

(432.) **L. littoralis,** Dougl.

L. versicolor, Lindl. Torr. & Gray, Fl. I., 376.
L. Nutkatensis, var. *glaber,* Hook. Fl. I., 163.

Along the coast of British Columbia, near the southern boundary. (*Douglas.*) On the coast of Vancouver Island. (*Watson.*) The root of this plant is eaten, and called "Chinook Liquorice."

(433.) **L. perennis,** Linn. Perennial Lupine.

Dry, sandy soil; not uncommon west of Toronto, also on the G. T. R. track near Sarnia. Common on Rice Lake Plains, near Castleton, Northumberland Co., Ont. (*Macoun.*) Very common in the vicinity of London, Ont. (*Burgess.*) Plains of the Rivière aux Sables, south of Lake Huron. (*Gibson.*) Sandwich, Ont. (*Maclagan.*) Bosanquet, Ont. (*McGill Coll. Herb.*)

(434.) **L. arcticus,** Watson, Rev. Lup., 526.

L. perennis, Richards.. Hook. Fl. I., 163, in part.

Shores of the Arctic Sea. (*Richardson.*) Cape Mulgrave, in Behring's Straits. (*Beechy.*) Kotzebue Sound. (*Rothr. Alask.*) Vancouver Island. (*C. B. Wood.*) Bear Lake. (*Richardson.*) Polar Sea. (*Dean & Simpson.*) Both east and west of Mackenzie River, on the coast. (*Simpson.*)

(435.) **L. sericeus,** Pursh, 468.

On dry ground, above Spence's Bridge, B.C. (*Hill.*)

(436.) **L. leucophyllus,** Dougl.

L. plumosus, Dougl. Hook. Fl. I., 165.

Mountains, near the sources of the Columbia. (*Douglas.*)

(437.) **L. ornatus,** Dougl.

L. leucopsis, Agardh. Torr. & Gray, Fl. I., 378.
L. argenteus, Agardh. Torr. & Gray, Fl. I., 377, in part.

Near the source of the Columbia; sparingly. (*Douglas.*)

(438.) **L. laxiflorus,** Dougl.

L. arbustus, Dougl. Hook. Fl. I., 164.

Columbia River. (*Douglas.*) Vancouver Island. (*Watson.*)

(439.) **L. argenteus,** Pursh, var. **argophyllus,** Watson.

Very abundant on the top of the Cypress Hills, east of Fort Walsh. Flowers blue or ochroleucous. (*Macoun.*) South of Woody Mountain, on the 49th parallel, and at Wood End; also, Belly River. (*Dawson.*)

(440.) **L. Kingii,** Watson. Rev. Lup., 534.

Dry sand hills, five miles west of the northern Elbow of the South Saskatchewan. Western end of Stinking Lake, north of the Cypress Hills, east of the Battleford Trail, N.W.T. (*Macoun.*) Along the Belly River. (*Dawson.*)

(441.) **L. minimus,** Dougl.

Mountain valleys near the source of the Columbia. (*Douglas.*)

(442.) **L. Lyallii,**, Gray.

Alpine summits of the Cascades, on the British Columbia southern boundary. (*Lyall.*)

(443.) **L. micranthus,** Dougl., var. **bicolor,** Watson.

L. bicolor, Lindl. Hook. Fl. I., 162. Macoun's Cat., No. 382.

Abundant in the neighborhood of Victoria, Vancouver Island, and at Yale, B.C., on the mainland. (*Macoun.*)

(444.) **L. Nootkatensis,** Donn.

Jasper House, east of Yellow-Head Pass. (*Burke.*) Queen Charlotte Islands. (*Dawson.*) Port Moody, B. C. (*Hill.*) From Vancouver Island to the Aleutian and St. Paul Islands. (*Ledebour.*) Fort Youcon. (*Rothr. Alask.*)

Var. **Unalaskensis,** Watson. Rev. Lup., 524.

Ounalashka Island. (*Eschscholtz.*) Port Mulgrave. (*Barclay.*)

(445.) **L. polyphyllus,** Lindl.

L. Nootkatensis, var. *glaber,* Hook. Fl. I., 163.

Rocky Mountains, north of the Smoky River, in Lat. 55°. (*Drummond.*) Pine Pass, Rocky Mountains, Lat. 55°. (*Dawson.*) Along the trail, between Fort St. James and Fort Macleod, B. C. (*Macoun.*)

Excluded Species.

Lupinus pusillus, Pursh. Hook. Fl. I., 162.

South of our limits.

L. lepidus, Dougl. Hook. Fl. I., 163. Macoun's Cat., No. 390.

South of our limits.

L. aridus, Dougl. Hook. Fl. I., 165.

May be found on the Upper Columbia, in British Columbia.

L. Sabinii, Dougl. Hook. Fl. I., 166. Macoun's Cat., No. 383.

South of our limits.

L. sulphureus, Dougl. Hook. Fl. I., 166.

South of our limits.

130. ULEX, Linn. (COMMON GORSE, OR WHIN.)

(446.) **U. Europæus,** Linn. Whin.

Growing wild in the vicinity of Victoria, Vancouver Island. Escaped from cultivation. (*Macoun.*)

131. SAROTHAMNUS, Linn. (BROOM.)

(447.) **S. scoparius,** Koch. Common Broom.

Cytisus scoparius, DC. Macoun's Cat., No. 495.

Abundant in thickets around Victoria, Vancouver Island. Escaped from cultivation. (*Macoun.*) Naturalized at Shelbourne, N.S. (*Mr. P. Jack.*)

132. TRIFOLIUM, Linn. (CLOVER. TREFOIL.)

(448.) **T. megacephalum,** Nutt. Great-headed Clover.

Lupinaster macrocephalus, Pursh, 479.

In the mountains on the southern boundary of British Columbia. (*Lyall.*)

(449.) **T. longipes,** Nutt. Long-stemmed Clover.

Along the southern boundary of British Columbia. (*Watson.*)

(450.) **T. arvense,** Linn. Rabbit-foot, or Stone Clover.

Naturalized, in old fields, from Europe. Richibucto, N.B. Along the railway track, near St. John, N.B. (*Fowler's Cat.*) Common at Rivière du Loup, Q. (*Thomas.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Brockville road, near Conway's Creek, Ont. (*Billings.*) Necropolis, Toronto, and at Niagara Falls. (*Macoun.*) Dundurn Castle, Hamilton, Ont. (*Logie.*)

(451.) **T. pratense,** Linn. Common Red Clover.

Cultivated throughout Canada, and found everywhere along the borders of fields.

(452.) **T. reflexum,** Linn. Buffalo Clover.

T. Pennsylvanicum, DC. Hook. Fl. I., 131.

Only found in south-western Ontario, on islands in the Detroit River. (*Maclagan.*) About Sandwich and Amhertsburg. (*Douglas.*)

(453.) **T. repens,** Linn. White, or Dutch Clover.

Very common by waysides, in pastures and meadows, and borders of woods. Naturalized, or possibly indigenous.

(454.) **T. involucratum,** Willd.

T. Wormskioldii, Lehm. Torr. & Gray, Fl. I., 692.
T. fimbriatum, Lindl. Hook. Fl. I., 133. Macoun's Cat., Nos. 397 & 398.
T. spinulosum, Dougl. Hook. Fl. I., 133.

Abundant on Vancouver Island, around Victoria. (*Macoun.*)

Var. **heterodon,** Watson.

T. heterodon, Torr. & Gray, Fl. I., 318.

Along the coast of British Columbia, as far north as Queen Charlotte Islands. (*Dawson.*)

(455.) **T. tridentatum,** Lindl.

T. involucratum, Smith. Hook. Fl. I., 133.
T. aciculare, Nutt. Torr. & Gray, Fl. I., 319.
T. polyphyllum, Nutt. Torr. & Gray, Fl. I., 319.

Common around Victoria, Vancouver Island. (*Macoun.*)

(456.) **T. pauciflorum,** Nutt. Macoun's Cat., Nos. 393, 400.

T. microcephalum, var. *glabrum*, Hook. Fl. I., 132.
T. variegatum, Nutt. Torr. & Gray, Fl. I., 317.

Abundant on rocks close to the shore, near Victoria, Vancouver Island. (*Macoun.*)

(457.) **T. microcephalum,** Pursh.

Growing with the preceding, but quite hairy, and with more compact heads, with more and smaller flowers. (*Macoun.*)

(458.) **T. microdon,** Hook. & Arn.

Southern boundary of British Columbia. (*Lyall.*)

(459.) **T. depauperatum,** Desv.

T. amplectans, Macoun's Cat., No. 399.

Quite common in the neighborhood of Victoria, Vancouver Island. (*Macoun.*)

(460.) **T. agrarium,** Linn. Hop-Clover.

Sparingly introduced in some localities. Fields, Bedford, N. S. (*Lawson.*) Queensbury; common near Fredericton and other localities, N.B. (*Fowler's Cat.*) Between Trenton and the Carrying Place at the head of the Bay of Quinte, Ont. (*Macoun.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Chatham, Ont., and near Montreal, Q. (*McGill Coll. Herb.*)

(461.) **T. procumbens,** Linn. Low Hop-Clover.

Naturalized in old fields and parks. Pictou and Windsor, N.S., not common. (*McKay.*) Sparingly in sandy ground at Richibucto, also at Grand Menan and St. Andrews, N.B. (*Fowler's Cat.*) Vicinity of Quebec. (*Brunet.*) Beauharnois County, Q. (*McGill Coll. Herb.*) Roadside, west of Ottawa. (*Whyte.*) Point Henry, at Kingston; and University Park, Toronto. (*Macoun.*) Near London, Ont. (*Burgess.*)

(462.) **T. hybridum,** Linn. Alsick.

Cultivated fields and along fences. This species is extensively cultivated both in Ontario and the eastern provinces.

(463.) **T. resupinatum,** Linn. Reversed Trefoil.

On ballast heaps at St. John, N.B. (*Fowler's Cat.*) Vicinity of Quebec. (*Ami.*)

(464.) **T. ornithopodioides,** Linn. Bird's-foot Trefoil.

Sparingly introduced on ballast heaps at St. John, N.B. (*Fowler's Cat.*)

133. MELILOTUS, Tourn. (MELILOT.)

(465.) **M. alba,** Lam. Sweet Clover.

M. officinalis, Pursh. Hook. Fl. I., 130.
M. leucantha, Koch. Torr. & Gray, Fl. 1., 321.

Naturalized. Roadsides, waste places, and in old gardens in the neighborhood of cities and towns.

(466.) **M. officinalis,** Willd. Yellow Melilot.

Naturalized at Pictou and Halifax, N.S. In New Brunswick, and at Quebec, Montreal, Ottawa, Belleville, Toronto, and London.

134. MEDICAGO, Linn. (MEDICK,)

(467.) **M. lupulina,** Linn. Black Medick.

Very abundant on roadsides, in cultivated fields, and waste places generally throughout Ontario. It is also naturalized in the Maritime Provinces and Quebec; and frequent in British Columbia.

(468.) **M. denticulata,** Willd. Bur-Clover.

Introduced at St. John, N.B. (*Fowler's Cat.*) Introduced at Dundas, Ont., in wool, from Brazil. (*Hynes.*)

(469.) **M. sativa,** Linn. Lucerne.

Introduced into sandy fields near Wooler, Northumberland Co., Ont., and at Royston Park, Owen Sound. (*Macoun.*) Niagara Falls and near Toronto. (*Burgess.*)

(470.) **M. maculata,** Willd. Spotted Medick.

Introduced with ballast from Europe. Carleton, N.B. (*Hay.*)

135. LOTUS, Linn. (LOTUS.)

(471.) **L. corniculatus,** Koch.

Apparently naturalized at Fairville, N.B. (*Fowler's Cat.*) Found at Ballast wharf, St. John, N.B. (*Hay.*)

136. HOSACKIA, Dougl. (HOSACKIA.)

(472.) **H. bicolor,** Dougl. Hook. Fl. I., 134.

On the Columbia, near its source in British Columbia. (*Douglas.*)

(473.) **H. decumbens,** Benth. Hook. Fl. I., 134.

Along the coast of southern British Columbia, and possibly on the south coast of Vancouver Island. (*Macoun.*)

(474.) **H. parviflora,** Benth. Hook. Fl. I., 134.

On grassy slopes along the coast at Victoria, Vancouver Island. (*Macoun.*)

(475.) **H. Purshiana,** Benth.

H. unifoliata, Hook. Fl. I., 135.
Lotus sericeus, Pursh, 489.
H. pilosa, Nutt. Torr. & Gray, Fl. I., 327 & 692.
H. elata, floribunda, and mollis, Nutt. Torr. & Gray, Fl. I., 327.

Along the shores of southern British Columbia. (*Cowley.*)

137. PSORALEA, Linn. (PSORALEA.)

(476.) **P. argophylla,** Pursh. Hook. Fl. I., 136.

Dry soils on the banks of the Red River, Lat. 50°, to the Saskatchewan, in Lat. 54°, from Carlton to Edmonton. (*Drummond.*) Very abundant on the whole prairie region from the Red River to the Rocky Mountains. (*Macoun.*)

(477.) **P. esculenta,** Pursh. "Cree Turnip."

P. brachiata, Dougl. Hook. Fl. I., 137.

Plains of the Saskatchewan from Carlton to Edmonton. (*Drummond.*) Abundant on dry, sandy soil from the Red River to the Rocky Mountains.

(478.) **P. lanceolata,** Pursh. Hook. Fl. I., 135.

P. elliptica, Pursh, 741.
P. laxiflora & scabra, Torr. & Gray, Fl. I., 299 & 300.

On the Saskatchewan from Carlton to Edmonton. (*Drummond.*) Near the source of the Columbia. (*Douglas.*) On the sand hills on the "River that Turns," and at Gull Lake, north of Cypress Hills, N.W.T. (*Macoun.*)

(479.) **P. physodes,** Dougl. Hook. Fl. I., 136.

Open, sandy and gravelly soils along the upper part of the Columbia. (*Douglas.*)

138. AMORPHA, Linn. (FALSE INDIGO.)

(480.) **A. canescens,** Nutt. Lead Plant.

Abundant on the plains of the Red River, in Lat. 50°. (*Douglas.*) On a piece of bushy ground at Portage la Prairie, Man, 1872. (*Macoun.*)

(481.) **A. fruticosa,** Linn. False Indigo.

Limestone rocks between Winnipeg and Selkirk, along the Red River, its most northern range. (*Douglas.*)

(482.) **A. microphylla,** Pursh. Macoun's Cat., No. 422.

A. nana, Nutt. Hook. Fl. I., 139.

Abundant on the plains of the Red River, in Lat. 50°. (*Douglas.*) Common along the Assiniboine, between Portage la Prairie and Brandon. (*Macoun*).)

139. PETALOSTEMON, Michx. (PRAIRIE CLOVER.)

(483.) **P. candidus,** Michx. White-flowered Prairie Clover.

Banks of the Saskatchewan, and upon the Red Deer and Eagle Hills of that river. (*Drummond.*) On the Red River. (*Douglas.*) Very abundant on the slopes of gravel hills throughout the prairie region. (*Macoun.*)

(484.) **P. violaceus,** Michx. Purple-flowered Prairie Clover.

P. villosus, Nutt. Pl. Bourgeau, 255.

In the same situations as the preceding species, but a much more beautiful and showy plant.

140. GLYCYRHIZA, Tourn. (WILD LIQUORICE.)

(485.) **G. lepidota,** Pursh. Liquorice Root.

Fort Erie, opposite Buffalo, at the foot of Lake Erie. (*Judge Clinton.*) Sand hills, mouth of Rainy River, Lake of the Woods. Throughout the prairie region, in thickets or along river banks, and northward to Lake Athabasca, and westward to the Rocky Mountains. (*Macoun.*) Nelson River, between Lake Winnipeg and Hudson's Bay. (*R. Bell.*) Abundant on the Red, Assiniboine, Saskatchewan, and Athabasca Rivers. (*Drummond & Douglas.*)

Var. **glutinosa,** Watson, Bot. Cal. I., 144.

G. glutinosa, Nutt. Torr. & Gray, Fl. I., 298. Macoun's Cat., No. 459.

In the upper valley of the Columbia. (*Douglas.*) Along the southern border of British Columbia. (*Lyall.*)

141. ROBINIA, Linn. (LOCUST-TREE.)

(486.) **R. Pseudacacia,** Linn. Common Locust.

Cultivated and growing spontaneously from both suckers and seeds. From Nova Scotia to western Ontario. It becomes a large tree and is often 60 feet high.

(487.) **P. viscosa,** Vent. Clammy Locust.

P. hispida, Macoun's Cat., No. 424.

Cultivated with the preceding, but never attaining a large size. Both species are very showy and are much valued for ornamental purposes.

142. ASTRAGALUS, Linn. (MILK VETCH.)

(488.) **A. lentiginosus,** Dougl. Hook. Fl. I., 151.

A. diaphanus, Dougl. Hook. Fl. I., 151.

Barren grounds in the valley of the Columbia. (*Douglas.*) Nicola Valley, B.C. (*Dawson.*)

(489.) **A. caryocarpus,** Ker. Hook. Fl. I., 150.

Hilly grounds of the Saskatchewan, especially about Carlton. (*Douglas.*) Quite common on the prairie, from the Red River, westward. It grows in large tufts, which lie flat on the ground in fruit. (*Macoun.*)

(490.) **A. Lyallii,** Gray.

Probably in the mountains, along the southern boundary of British Columbia. (*Lyall.*)

(491.) **A. Canadensis,** Linn. Canadian Milk Vetch.

A. Carolinianus, Linn. Pursh, 472.

River banks and rocky margins of fields. Vicinity of Quebec to the Rocky Mountains, and north to Nelson River, near Hudson's Bay.

(492.) **A. adsurgens,** Pall. Hook. Fl. I., 149.

A. striatus, Nutt. Torr. & Gray, Fl. I., 330.

Plains of the Saskatchewan and Assiniboine Rivers, as far as the mountains. (*Richardson.*) Very abundant on the prairie, from the Red River to the Rocky Mountains, and north to Green Lake, Lat 56°. (*Macoun.*) Nelson River, between Lake Winnipeg and the coast of Hudson's Bay. (*R. Bell.*) Common along the 49th parallel, and at Woody Mountain. (*Dawson.*)

(493.) **A. hypoglottis,** Linn. Hook. Fl. I., 148.

A. goniatus, Nutt. Torr. & Gray, Fl. I., 330.

Dry hills of the Saskatchewan, and on the Eagle and Red Deer Hills of the same river, also on Red River, near Pembina. (*Douglas.*) Very abundant on the eastern prairie region and north to Peace River, east of the Rocky Mountains. (*Macoun.*) East coast of Hudson's Bay, Hayes River, and along Nelson River, near Hudson's Bay. (*R. Bell.*) Red River Prairie, First Crossing of Souris River, and Traders' Road, north of Woody Mountain, N.W.T. (*Dawson.*) Point Barrow and eastward along the Arctic coast. (*Capt. Pullen.*) Fort Youcon. (*W. H. Dall.*)

(494.) **A. Drummondii,** Dougl. Hook. Fl. I., 153.

Eagle and Red Deer Hills of the Saskatchewan, also Carlton House. (*Douglas.*) On the Hand Hills and the hilly region to the east; also, on the Cypress Hills west of Fort Walsh, N.W.T. (*Macoun.*)

(495.) **A. racemosus,** Pursh, 740.

Abundant on the Dirt Hills, and at Moose Jaw Creek, where the C. P. Railway crosses, N.W.T. (*Macoun.*)

(496.) **A. aboriginum,** Richards.

Phaca aboriginum, Hook. Fl. I., 143.

From Lake Winnipeg to the Rocky Mountains, and as far north as Bear Lake, in Lat. 66°. (*Richardson & Drummond.*) Abundant on gravel on the west side of the Qu'Appelle Valley at the crossing of the Carlton Trail; on a gravel ridge on top of the Cypress Hills, and in the Bow River Pass, N.W.T. (*Macoun.*) Pembina Mountain and Short Creek, Souris River, near the 49th parallel. (*Dawson.*) Fort Confidence, Lat. 67°. (*Simpson.*)

(497.) **A. glabriusculus,** Gray.

Phaca glabriuscula, Hook. Fl. I., 144.

Valleys of the Rocky Mountains. Lat. 52°–56°. (*Drummond.*)

(498.) **A. oroboides,** Hornem., var. **Americanus,** Gray.

Phaca elegans, Hook. Fl. I., 144.
P. parviflora, Nutt. Torr. & Gray, Fl. I., 348.
A. oroboides, Hook. Arct. Pl., 289, in part.

Along the Ste. Anne des Monts River, Gaspé. (*Macoun.*) Coast of Labrador. (*McGill Coll. Herb.*) In the Rocky Mountains, and on the higher summits of the mountains. (*Drummond.*) In the elevated country north of Fort St. John, Peace River, Lat. 56°. (*Macoun.*) Churchill River. (*R. Bell.*)

(499.) **A. alpinus,** Linn.

A. secundus, Michx. Fl. I., 66, not DC.
Phaca astragalina, DC. Hook. Fl. I., 145.
A. Labradoricus, Hook. Fl. I., 150.
A. Robbinsii, Matthew Pl. Acad., 15, not Gray.

Newfoundland and Labrador. (*Morrison.*) Coast of Labrador. (*Butler.*) Nepisiquit River; also upper St. John, N.B. (*Fowler's Cat.*) At Macleod's Lake, northern British Columbia. (*Macoun.*) In the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) In the extreme Arctic regions. (*Richardson.*) Churchill and Nelson Rivers, near Hudson's Bay. (*R. Bell.*) Kotzebue Sound to Point Barrow, and Fort Youcon. (*W. H. Dall.*) Back's Great Fish River. (*Back.*)

(500.) **A. lotiflorus,** Hook. Fl. I., 152.

Phaca lotiflora, Torr. & Gray, Fl. I., 349.

About Carlton, on the Saskatchewan. (*Drummond.*) Along the northern base of the Cypress Hills, at Setter's Farm, and on clay flats farther west; a rare species. (*Macoun.*) Spence's Bridge, B.C. (*Hill.*)

(501.) **A. Missouriensis,** Nutt.

A. melanocarpus, Nutt. Hook. Fl. I., 150.

Plains of the Saskatchewan, and Eagle and Red Deer Hills of the same river. (*Richardson.*) Abundant on the margins of saline depressions and on clay flats at Long Lake and Moose Mountain, and westward to the Rocky Mountains. (*Macoun.*) Short Creek, Souris River. (*Dawson.*)

(502.) **A. Beckwithii,** Torr. & Gray.

Arid soil along the Thompson River, below Spence's Bridge, B.C. (*Macoun.*) Nicola Valley, near the same place. (*Dawson.*)

(503.) **A. Purshii,** Dougl. Hook. Fl. I., 152.

Phaca mollissima, Nutt. Torr. & Gray, Fl. I., 350.

In abundance along the Thompson, below Spence's Bridge, B.C. (*Hill & Macoun.*)

(504.) **A. Cooperi,** Gray.

Phaca neglecta, Torr. & Gray, Fl. I., 344.

Rocky ground and gravelly banks of rivers. Hillside, Gaspé Basin, Q.; Myersburg and vicinity of Marmora village, Northumberland Co., and Bruce Peninsula, Ont. (*Macoun.*) Vicinity of London, Ont., and on the Grand Manitoulin Island, Georgian Bay. (*Burgess.*) La Cloche and Whiskey Islands, Lake Huron. (*J. Bell.*) Hamilton, Ont. (*Logie.*) Montreal Island, Q; Bosanquet, Ont. (*McGill Coll. Herb.*)

(505.) **A. Gibbsii,** Kellogg.

A. cyrtoides, Gray.

Dry soil, Nicola Valley, B. C. (*Dawson.*) Specimens without fruit.

(506.) **A. speirocarpus,** Gray.

On the Upper Columbia. (*Lyall.*)

(507.) **A. frigidus,** Gray, var. **Americanus,** Watson.

Phaca frigida, Richards. Pl. Bourgeau, 255.
P. frigida, var. *Americana*, Hook. Fl. I., 140.

Woody regions of the Rocky Mountains, Lat. 52°–56°, north to Slave Lake, Lat. 61°. (*Richardson.*) On the mountains in the S. Kootanie Pass. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*) On the Nelson River, near Hudson's Bay. (*R. Bell.*) Wooded country, between Edmonton and Peace River; Bow River Pass, above Morley; and in northern British Columbia. (*Macoun.*) On the coast between the Mackenzie and Coppermine R vers. (*Simpson.*)

Var. **littoralis,** Watson.

Phaca frigida, var. *littoralis*, Hook. Fl. I., 140.
Astragalus frigidus, Rothr. Alask. 445.

Arctic shores, west of the Mackenzie River to Cape Lisburne, in Behring's Straits. (*Hooker.*) Kotzebue Sound. (*Rothr. Alask.*)

(508.) **A. microcystis,** Gray.

On the banks of Methy River, east of Portage La Loche—1875 (*Macoun.*)

(509.) **A. bisulcatus,** Gray.

Phaca bisulcata, Hook. Fl. I., 145.

Plains of the Saskatchewan. (*Drummond.*) Very abundant on dry slopes, from Fort Ellice westward across the prairies. (*Macoun.*)

(510.) **A. pectinatus,** Dougl.

Phaca pectinata, Hook. Fl. I., 141.

Pastures of the Saskatchewan, and on the Red Deer and Eagle Hills bordering on that river. (*Douglas.*) Common on gravelly slopes from the Souris west to the Rocky Mountains. (*Macoun.*) First Crossing of Souris River, N.W.T., on dry prairie. (*Dawson.*)

(511.) **A. flexuosus,** Dougl.

Phaca flexuosa, Hook. Fl. I., 141.
P. elongata, Hook. Fl. I., 140. Pl. Bourgeau, 255.

Plains of the Saskatchewan. (*Drummond.*) Abundant on elevated

and dry soils of the Red River and Assiniboine, Lat. 50°. (*Douglas.*) From the Red River westward to the Rocky Mountains; very abundant. (*Macoun.*) Red River prairie, Pembina Mountain, Woody Mountain and Short Creek, Souris River, N.W.T.; common. (*Dawson.*)

(512.) **A. collinus,** Dougl.

Phaca collina, Hook. Fl. I., 141.

On dry slopes of the mountains above Spence's Bridge, B. C. (*Dawson.*)

(513.) **A. multiflorus,** Gray.

A. tenellus, Pursh, 473.
Ervum multiflorum, Pursh, 739.
Phaca nigrescens, Hook. Fl. I., 143.
Homalobus multiflorus, Torr. & Gray, Fl. I., 351.
H. dispar, Nutt. Torr. & Gray, Fl. I., 350.
Astragalus nigrescens, Gray, Pl. Bourgeau, 255.

On the Saskatchewan to the Rocky Mountains, and as far north as Fort Franklin, on the Mackenzie River, in Lat. 65°. (*Richardson.*) Very abundant on the prairies west of Fort Ellice to the Rocky Mountains. (*Macoun.*) Spence's Bridge, B.C. (*Hill.*)

(514.) **A. Bourgovii,** Gray.

Rocky Mountains, Bow River Pass. (*Bourgeau.*) Rocky Mountains, S. Kootanie Pass (6000 feet.) (*Dawson.*)

(515.) **A. Palliseri,** Gray.

Rocky Mountains, Bow River Pass. (*Bourgeau.*)

(516.) **A. decumbens,** Gray.

Homalobus decumbens, Nutt. Torr. & Gray, Fl. I., 352.

On dry ground around Spence's Bridge, B. C. (*Macoun & Hill.*) Chilcoten Plains, B.C. (*Dawson.*)

(517.) **A. cæspitosus,** Gray.

Homalobus cæspitosus, & canescens, Torr. & Gray, Fl. I., 352.

On gravelly ridges in the centre of the Cypress Hills. (*Macoun.*) Dry bank, White Mud River, 49th parallel, south of Cypress Hills. (*Dawson.*)

(518.) **A. Kentrophyta,** Gray.

Kentrophyta montana, Nutt. Torr. & Gray, Fl. I., 353.
K. viridis, Nutt. Torr. & Gray, Fl. I., 353.

Borders of Stinking Lake, north of Cypress Hills, in sand. (*Macoun.*) Along Belly River, N.W.T. (*Dawson.*)

(519.) **A. triphyllus,** Pursh.

Phaca caespitosa, Nutt. Hook. Fl. I., 143.
P. argophylla, Nutt. Torr. & Gray, Fl. I., 342.

Between Carlton and Edmonton, on the Saskatchewan. (*Drummond.*) On dry, gravelly hills, from the Souris to the Rocky Mountains. (*Macoun.*) Along the 49th parallel, east of Woody Mountain. (*Dawson.*)

(520.) **A. polaris,** Benth.

Re-discovered by Seemann at Eschscholtz Bay, in Kotzebue Sound, during the voyage of the "Herald." (*J. D. Hooker.*)

(521.) **A. pauciflorus,** Hook. Fl. I., 149.

Among the rocks in the more elevated regions of the Rocky Mountains. (*Drummond.*) Bed of the Bow River at Morley: also on the summit of the Cypress Hills. (*Macoun.*) S. Kootanie Pass, near the 49th parallel. (*Dawson.*)

(522.) **A. vaginatus,** Richards. Hook. Fl. I., 149.

Woody country, Lat. 54°.–64°. (*Richardson.*)

(523.) **A. —— ?**

Upper part of the Nicola Valley, B.C. (*Dawson.*) Specimens without fruit.

(524.) **A. —— ?**

Whipsaw Creek, B.C., June 17th, 1877. (*Dawson.*) Specimens without fruit.

143. OXYTROPIS, DC. (OXYTROPIS.)

(525.) **O. podocarpa,** Gray.

O. arctica, var. *inflata*. Hook. Fl. I., 146.

Labrador and the Arctic regions. (*Gray.*) Highest summits of the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) High elevations, Bow River Pass. (*Macoun.*) Rocky Mountains. (*Bourgeau.*)

(526.) **O. Uralensis,** DC., var. **pumila,** Ledeb.

O. artica, R. Brown. Hook. Fl. I., 146, in part.

St. Paul's Island, Gulf of St. Lawrence. (*McKay.*) Arctic shores and islands. Kotzebue Sound and west coast of Alaska. (*Hooker.*) Rocky Mountains. (*Bourgeau.*)

(527.) **O. campestris,** DC. Hook. Fl. I., 147.

O. borealis, DC. Hook. Fl. I., 145.

Islands in St. John River, N.B. (*Bailey.*) Edmundton and along the banks of the Upper St. John, N.B. (*Hay.*) Cliffs near Cape St. Louis, Gaspé coast. (*Macoun.*) Isle of Orleans, and coast of Labrador. (*Brunet.*) From Carlton to the Rocky Mountains, and as far as the sources of the Columbia (*Douglas.*) Bear Lake to the Arctic shores and islands. (*Richardson.*) At Spence's Bridge, B.C. Throughout the prairie region, very common. (*Macoun.*) Kotzebue Sound. (*Rothr. Alask.*) Baffin's Bay. (*Hooker.*)

Var. **viscida,** Watson.

O. viscida, Nutt. Torr. & Gray, Fl. I., 341.
O. campestris. ? Pl. Bourgeau, 256.

Saskatchewan Plains. (*Bourgeau.*) Bow River at the Blackfoot Crossing and at Morley, N.W.T. (*Macoun.*)

(528.) **O. Lamberti,** Pursh, 740.

O. Hookeriana, Nutt. Torr. & Gray, Fl. I., 340.
O, Plattensis, Nutt. Torr. & Gray, Fl. I., 340.
O. sericea, Nutt. Torr. & Gray, Fl. I., 339.

Dry banks on the Red River and Saskatchewan. (*Douglas.*) Prairies in the valleys of the Rocky Mountains. (*Drummond.*) Very abundant throughout the prairie region. (*Macoun.*) North Antler Creek, White Mud River, and First Crossing of the Souris, N.W.T.; always on dry ground. (*Dawson.*)

(529.) **O. nana,** Nutt.

? O. argentata, Pursh. Hook. Fl. I., 146.

Woody country, Lat. 54°–64°. (*Richardson.*)

(530.) **O. nigrescens,** Fisch. Hook. Fl. I., 147.

Island of St. Lawrence in Behring's Straits. (*De Candolle.*)

(531.) **O. spiendens,** Dougl.

On limestone rocks of the Red River and south to Pembina. (*Douglas.*) Very abundant from Brandon, westward to the Rocky Mountains, throughout the prairie region. (*Macoun.*) Turtle Mountain, N.W.T. (*Dawson.*)

Var. **Richardsoni,** Hooh. Fl. I., 148.

O. oxyphylla, Richards. in Frankl. Journ. 17.

From Cumberland House on the Saskatchewan, north to Fort Frank-

lin and Bear Lake, and west to the dry prairies of the Rocky Mountains. (*Richardson & Drummond.*) From Edmonton to the Peace River region, and through the Rocky Mountains to the Findley Branch of the Peace River, on the west side of the Rocky Mountains. (*Macoun.*)

(532.) **O. deflexa,** DC.

O. foliolosa, Hook. Fl. I., 146.

From Carlton to the Rocky Mountains, Lat. 54°. (*Drummond.*) Abundant from the middle crossing of the Little Saskatchewan to the Rocky Mountains; generally on the sides of coulées. (*Macoun.*) Southern British Columbia, in the dry region. (*Dawson.*)

144. HEDYSARUM, Tourn. (HEDYSARUM.)

(533.) **H. boreale,** Nutt.

H. alpinum, Richards. in Frankl. Journ. 17.

H. alpinum, var. *Americanum,* Michx. Fl. II., 274.

Newfoundland. (*McGill Coll. Herb.*) Grand Falls of the St. John, also on the Nepisiquit River, N.B. (*Fowler's Cat.*) Borders of Lake St. John, Q. (*Brunet.*) Labrador. (*Butler.*) Rocky banks of the Dartmouth River, Little Falls of the Magdalen River, and on cliffs along the Gaspé coast. Very abundant on the prairies, and extending north to the Peace River region. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*) Throughout the wooded country and north to the Arctic circle. (*Richardson.*) Summit of Pine Pass, Lat. 55°. (*Dawson.*) Kotzebue Sound and Cape Lisburne. (*Rothr. Alask.*) Between the Mackenzie and Coppermine Rivers. (*Simpson.*)

(534.) **H. Mackenzii,** Richards.

H. boreale, Richards. Frankl. Journ., 745.

H. canescens, Nutt. Torr. & Gray, Fl. I., 357.

Barren grounds north of Lat. 64°; as far north as the shores of the Arctic Sea. (*Richardson.*) On the Saskatchewan, about Carlton and westward to the mountains. (*Drummond.*) On the Eagle and Red Deer Hills of the Saskatchewan. (*Douglas.*) On Hayes River and the east coast of Hudson's Bay. (*R. Bell.*) In great abundance 20 miles west of Moose Mountain; on the Cypress Hills; vicinity of the Hand Hills; in the Bow River Pass and on the banks of Peace River and the lower slopes of Mount Selwyn, Peace River Pass. (*Macoun.*) Youcon River, 50 miles west of Fort Youcon. (*Rothr. Alask.*) This is a very beautiful species. Its root is eaten by the Indians wherever it is found.

145. DESMODIUM, DC. (TICK TREFOIL.)

(535.) **D. nudiflorum,** DC.

Hedysarum nudiflorum, Linn. Michx. Fl. II., 71.

Rich woodlands and sandy thickets. Rare eastward. About Quebec. (*Cleghorn.*) Papineau Wood, Montreal. (*Holmes.*) Rare in eastern Ontario. (*Billings.*) Oak Hills, 16 miles north of Belleville; near Brighton Village and at Niagara Falls, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) London, Ont., not rare. (*Burgess.*)

(536.) **D. acuminatum,** DC.

Hedysarum acuminatum, Michx. Fl. II., 72.

Rich woods; common throughout Ontario, and eastward in Quebec to the Isle of Orleans.

(537.) **D. pauciflorum,** DC.

Rich woods of western Ontario. Woods at Niagara Falls. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Prescott, Ont., rare. (*Billings.*) ?

(538.)) **D. rotundifolium,** DC.

Hedysarum rotundifolium, Michx. Fl. II., 72.

Dry, sandy woods, near London, Ont. (*Burgess.*)

(539.) **D. cuspidatum,** Hook.

Hedysarum cuspidatum, Muhl. Pursh, 483.
H. bracteosum, Michx. Fl. II., 73.
D. bracteosum, DC. Hook. Fl. I., 154.

Rocky thickets; rather local. Meyersburg, Northumberland Co., Ont. (*Macoun.*) Vicinity of Ottawa. [?] (*Fletcher Fl. Ott.*) Hamilton, Ont. (*Buchan.*) Cayuga, St. Catharines, and Malden, Ont. (*Maclagan.*) Vicinity of London, Ont. (*Burgess.*) Near Fort Erie, rare; also, at Queenston Heights. (*Douglas.*)

(540.) **D. canescens,** DC.

Hedysarum canescens, Linn. Pursh, 482.
H. viridiflorum, Willd. Pursh, 482.

In moist soil, Malden, Ont. (*Maclagan.*)

(541.) **D. Dillenii,** Darling. Macoun's Cat., No. 469.

Hedysarum Marilandicum, Willd. Pursh, 482.

Dry, rather open thickets, Queenston Heights. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Not rare at London, Ont. (*Burgess.*)

(542.) **D. paniculatum,** DC.

Hedysarum paniculatum, Linn. Pursh, 483.

Dry, sandy thickets. Rice Lake Plains, near Castleton, Ont. (*Macoun.*) At Hamilton, Ont. (*Logie.*) St. Catharines and Malden, Ont. (*Maclagan.*) Vicinity of London, Ont. (*Burgess.*)

(543.) **D. Canadense,** DC.

Hedysarum Canadense, Linn. Pursh, 481.

Dry, rich woods or thickets; common throughout Quebec and Ontario: Fredericton and upper St. John, N.B. (*Fowler's Cat.*) Along Hammond River, King's Co., N.B. (*J. Brittain.*) Lake of the Woods. (*Burgess.* As far north as Norway House, at the north end of Lake Winnipeg. (*Hooker.*)

(544.) **D. ciliare,** DC.

Hedysarum ciliare, Muhl. Pursh, 482.
D. Marilandicum, Macoun's Cat., No. 466.

Dry, sandy thickets, Queenston Heights, Ont., 1877. (*Macoun.*)

146. LESPEDEZA, Michx. (BUSH CLOVER.)

(545.) **L. repens,** Barton.

L. procumbens, Michx. Gray, Manual, 137.
L. prostrata, Pursh. Hook. Fl. I., 156.

Sandy soil, Ontario. (*Douglas.*) The Dell, Ancaster, near Hamilton, Ont. (*Loyie.*) These very likely refer to the next species.

(546.) **L. reticulata,** Pers.

L. sessiliflora, Michx. Fl. II., 70. in part.
L. violacea, var. *sessiliflora*, Torr. & Gray, Fl. I., 367.
L. violacea, Macoun's Cat., No. 475.

Dry copses and borders of woods. The Dell, Ancaster, Ont. (*Logie.*) Malden, Ont. (*Maclagan.*) Vicinity of London, Ont. (*Burgess.*) Canada. (*Holmes.*)

(547.) **L. hirta,** Ell.

L. polystachya, Michx. Hook. Fl. I., 156.

Dry, sandy hillsides. Common about Sandwich, Ont. (*Douglas.*) Oak Hills, 11 miles north of Belleville; also, Queenston Heights and Niagara Falls, Ont. (*Macoun.*) Vicinity of Prescott, Ont. (*Billings.*)

Prince's Island, Lake Medad, near Hamilton, Ont. (*Logie.*) St. Catharines, Thorold, and Queenston, Ont. (*Maclagan.*) Rather common at London, Ont. (*Burgess.*)

(548.) **L. capitata,** Michx.

Dry sandy soil, in thickets and open woods. Rice Lake Plains, Oak Hills, near Belleville, and Queenston Heights, Ont. (*Macoun.*) Gravel Pit, west of Prescott, and westward along the St. Lawrence. (*Billings.*) Prince's Island, near Hamilton, Ont. (*Logie.*) Huron County, Ont. (*Gibson.*) Malden, Ont. (*Maclagan.*) Common at London, Ont. (*Burgess*)

147. VICIA, Tourn. (VETCH. TARE.)

(549.) **V. sativa,** Linn. Common Vetch.

Naturalized through cultivation, and by the agency of railways. It is more commonly found in railway cuttings and along embankments than in fields.

(550.) **V. tetrasperma,** Loisel.

Errum tetraspermum, Linn. Hook. Fl. I., 158.

Introduced from Europe. Windsor and Halifax, N.S. (*Dawson.*) Abundant along the railway track near St. John, N.B. (*Fowler's Cat.*) Isle of Orleans, Q. (*Brunet.*) Longueuil, Q. (*Maclagan.*) Montreal, Q. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Grassy meadows, Ontario. (*Douglas.*)

(551.) **V. hirsuta,** Koch.

Errum hirsutum, Linn. Hook. Fl. I., 158.

Introduced in a few places. Along the railway near St. John, N.B. (*Fowler's Cat.*) Common in Quebec. (*Brunet.*) Common at Rivière du Loup, Q. (*Thomas.*) Garden weed in Ottawa and Perth, Ont. (*Whyte.*) Vicinity of Hamilton, Ont. (*Buchan.*)

(552.) **V. Cracca,** Linn.

Newfoundland. (*Morrison.*) Common in Nova Scotia. (*McKay.*) Fields and waste places, N.B., not common. (*Fowler's Cat.*) Very common throughout Quebec. Collected at Ottawa, Prescott and Belleville, which latter is its western limit in Ontario. This is with us an eastern species.

(553.) **V. Caroliniana,** Walter.

V. parviflora, Michx. Fl. II., 69.

River banks and lake shores. Bay of Quinte, both sides, rather

common. On the bank of the Detroit River at Amherstburg, Ont. (*Macoun.*) Chippawa, Navy Island, and Malden, Ont. (*Maclagan.*) Ontario, near the lakes. (*Douglas.*)

(554.) **V. Americana,** Muhl.

V. tridentata, Schw. Torr. & Gray, Fl. I., 272.
V. Oregana, Nutt. Macoun's Cat., No. 478.

Belledune, Restigouche, N. B. (*Chalmers.*) From the Falls of Niagara to the Pacific coast. Very abundant in the northern prairie region and in the wooded country, as far north as Bear Lake. It is also abundant in the Rocky Mountains and British Columbia, and north to Alaska.

Var. **linearis,** Watson.

Lathyrus linearis, Nutt. Torr. & Gray, Fl. I., 276.
L. dissitifolius, Nutt. Torr. & Gray, Fl. I., 277.

Very abundant throughout the prairie region, N.W.T. Not seen in the forest country. (*Macoun.*)

(555.) **V. gigantea,** Hook. Fl. I., 157.

Along the Pacific coast to Alaska. Queen Charlotte Islands. (*Dawson.*) Sitka, and Arctic coast. (*Roth. Alask.*)

148. LATHYRUS, Linn. (EVERLASTING PEA.)

(556.) **L. maritimus,** Bigel.

Pisum maritimum, Linn. Richards. in Frankl. Journ., 17.
L. pisiformis, Hook. Fl. I., 158.

Coast of Labrador. (*McGill Coll. Herb.*) Abundant on sea beaches, Nova Scotia, New Brunswick, and around the Gulf of St. Lawrence. James Bay, east side of Hudson's Bay, and north end of Lake Winnipeg. (*R. Bell.*) Sand beaches along the Great Lakes, quite common. (*Macoun.*) Muskoka Lakes and Georgian Bay. (*Burgess.*) Shores of the Arctic Sea. (*Richardson.*) Johnston's Strait, B. C. (*Dawson.*) Sitka and western coast of Alaska. (*Roth. Alask.*)

(557.) **L. venosus,** Muhl.

L. decaphyllus, Hook. Fl. I., 159.

From the Kaministiquia River, Lake Superior, across the continent to the Pacific Ocean. This species is abundant in the mixed prairie and forest country, north of Lat. 52°.

(558.) **L. ochroleucus,** Hook. Fl. I., 159.

L. pisiformis, Richards. in Frankl. Journ., 17.

Mississquoi Lake, Q. (*McGill Coll. Herb.*) From Ottawa, in the forest country, west to the Coast Range, B.C.; abundant in northern British Columbia, and extending north on the Mackenzie to Bear Lake, and beyond the Arctic Circle.

(559.) **L. paluster,** Linn.

Coast of Labrador. (*McGill Coll. Herb.*) Magdalen Islands and Nova Scotia, New Brunswick, Quebec, Ontario, and across the mixed forest region to British Columbia. It is usually found in beaver meadows, along streams, or low thickets, in wet places.

Var. **myrtifolius,** Gray.

L. myrtifolius, Muhl. Macoun's Cat., No. 487.
L. stipulaceus, LeConte. Hook. Fl. I., 160.
L. venosus, var. δ. Torr. & Gray. Fl. I., 274.

Rocky banks of rivers. Common in New Brunswick. (*Fowler's Cat.*) Rather common in Quebec, and extending to the Sault Ste. Marie. (*Macoun.*) Near Fort Erie, and extending along the Niagara to Queenston. (*Douglas.*)

(560.) **L. pratensis,** Linn.

Escaped from cultivation at Hamilton, Ont. (*Buchan.*)

149. APIOS, Boer. (GROUND NUT. WILD BEAN.)

(561.) **A. tuberosa,** Mœnch.

Glycine Apios, Linn. Michx. Fl. II., 63.

Along the margins of rivers and rocky banks. Keswick Ridge, and along the banks of the St. John River, at Fredericton; found also at St. Stephen, N.B. (*Vroom.*) West River, N.S. (*Lindsay.*) St. Nicholas, and Lotbinière, Q. (*Brunet.*) Islands in Lake St. Peter, Bécancour, Q. (*Provancher.*) Common in the western part of Quebec. (*McGill Coll. Herb.*) Rather common throughout Ontario in suitable localities.

150. PHASEOLUS, Linn. (KIDNEY BEAN.)

(562.) **P. diversifolius,** Pers.

P. trilobus, Michx. Fl. II., 60.

On sandy beaches and banks. Montreal, Q., and Malden, Ont. (*Maclagan.*) Port Stanley, Lake Erie. (*Burgess.*) Amherstburg and

Pelee Point, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*) This is doubtless the *P. helvolus* of *Saunders* and *Logie*. Canadian Journal, Vol. XV., p. 360.

151. AMPHICARPÆA, Ell. (HOG PEANUT.)

(563.) **A. monoica,** Ell.

Glycine monoica, Linn. Pursh, 485.

St. John River, N.B. (*Fowler's Cat.*) Abundant in moist thickets throughout western Quebec and Ontario, extending to the Kaministiquia River, above Fort William, Lake Superior. (*Macoun.*)

152. BAPTISIA, Vent. (FALSE INDIGO.)

(564.) **B. tinctoria,** R. Br. Wild Indigo.

Podalyria tinctoria, Lam. Michx. Fl. I., 265.

Dry or damp sandy woods. Vicinity of Hamilton, Ont. (*Logie.*) Colchester Township and Sandwich, Ont. (*Maclagan.*) Abundant in sandy thickets about half way between Essex Centre and Leamington, Ont. (*Macoun.*)

(565.) **B. leucantha,** Torr. & Gray.

B. alba, Hook. Fl. I., 129. Macoun's Cat., No. 494.

In rich alluvial soil. Shore of Lake Erie. (*Goldie.*) This species has not been detected since the time of Goldie.

153. GYMNOCLADUS, Lam. (KENTUCKY COFFEE-TREE.)

(566.) **G. Canadensis,** Lam.

A number of very large trees of this species were found growing on the northern end of Pelee Island, in Lake Erie, in the summer of 1882. The settlers on the island say that there were many others when they began to clear off the timber. A few of the trees were over two feet in diameter. This species has been planted in the town of Niagara, where it has attained a large size, and seems to bear the winter without injury. Two large trees of this species are to be seen close to Rideau Hall, near Ottawa, where they must have stood for nearly half a century. (*Macoun.*)

154. GLEDITISCHIA, Linn. (HONEY LOCUST.)

(567.) **G. triacanthos,** Linn. Three-thorned Acacia.

This species is common in cultivation throughout Ontario, and is quite hardy. In the summer of 1882 numerous trees of it were found growing on the sand dunes of Pelee Point. The seed had probably drifted across the lake from Ohio, as sand is not the true habitat of this tree.

XXXII. ROSACEÆ. Rose Family.

155. PRUNUS, Tourn. (PLUM. CHERRY.)

(568.) **P. Americana,** Marshall. Wild Plum.

P. nigra, Ait. Pursh, 331.
Cerasus nigra, Loisel. Hook. Fl. I., 167.

Common in thickets from Montreal westward to Red River and the Assiniboine, about the 100° meridian.

Var. **mollis,** Torr. & Gray, Fl. I., 407.

? *P. Canadensis,* Linn. Pursh, 330.
P. hiemalis, Michx. Fl. I., 284.
P. mollis, Torr., Fl. U.S., 470.
Cerasus hiemalis, Seringe. Hook. Fl. I., 168.

La Grand Chaudière [Chaudière Falls, Ottawa]. (?) (*Pursh.*) This is the black-fruited variety of our wild plum, and is to be looked for throughout Ontario. It is probable we have two species in our territory.

(569.) **P. maritima,** Wang. Beach Plum.

P. sphærocarpa, Michx. Fl. I., 284.
P. pubescens, Pursh, 331.

I introduce this species on the authority of L'Abbe Ovide Brunet, who quotes Pursh and the Hon. William Shepherd as his authorities. Borders of the Ottawa (?). (*Pursh.*) It may be looked for on the Island of Grand Manan and at St. Stephen, New Brunswick.

(570.) **P. pumila,** Linn. Sand, or Dwarf Cherry.

Cerasus pumila, Michx. Hook. Fl. I., 167.
P. depressa, Pursh, 332.
Cerasus depressa, Seringe. Hook. Fl. I., 168.

Sand beaches and sand dunes and plains. St. John River, and along

the Restigouche, N.B. (*Fowler's Cat.*) Restigouche River, N.B., Isle of Orleans, and Lake Mistassini, Q. (*Brunet.*) River St. Lawrence at Montreal. (*Holmes.*) Beaches, Gaspé coast, and westward along the St. Lawrence and Great Lakes and on the prairies to about the 106th meridian.

(571.) **P. Pennsylvanica,** Linn. Bird Cherry.

P. borealis, Poir. Pursh, 538.
Cerasus borealis, Michx. Fl. I., 286.
C. Pennsylvanica, Seringe. Hook. Fl. I., 168.

From Newfoundland, Nova Scotia, New Brunswick, and westward to the Rocky Mountains, where it is a small bush. Hence through northern British Columbia to the Coast Range.

(572.) **P. emarginata,** Walp.

Cerasus emarginata, Dougl. Hook. Fl. I., 169.

Southern British Columbia near the coast, also on Vancouver Island in the vicinity of Victoria.

Var. **mollis,** Brewer. Bot. Cal. I., 167.

Cerasus mollis, Dougl. Hook. Fl. I., 169.
Prunus mollis, Walp. Macoun's Cat., No. 501.

On subalpine hills, near the source of the Columbia. (*Douglas.*) Victoria, Vancouver Island, and at Yale, B.C. (*Macoun.*)

(573.) **P. Virginiana,** Linn. Choke Cherry.

P. serotina, Poir. Pursh. 330.
Cerasus Virginiana, Loisel. Pl. Bourgeau, 256.
Cerasus serotina, Hook. Fl. I., 169.

Very abundant in thickets, extending from Newfoundland, Nova Scotia and New Brunswick across the entire continent. On the Pacific coast, it seems to merge into the next species, which at any rate takes its place on the coast. It is found as far north as Lat. 62° on the Mackenzie. On the southern prairie amongst sand and along river banks, it produces fruit which vies in sweetness with the far-famed "Saskatoom" berries of the Plain Indians. The prairie form should be carefully compared with the eastern one.

(574.) **P. demissa,** Walp.

Cerasus serotina, Hook. Fl. I., 169, in part.
Cerasus demissa, Nutt. Torr. & Gray, Fl. I., 411.

Along the coast of British Columbia, and in the interior as far as Cache Creek.

It is extremely probable that three species are included in the two mentioned above, and that the prairie form is a species intermediate between *P. Virginiana* and *P. demissa.*

(575.) **P. serotina,** Ehrh. Black Cherry.

P. Virginiana, Mill. Pursh, 329.
Cerasus Virginiana, Michx. Hook. Fl. I., 169.
Cerasus serotina, Loisel. Torr. & Gray, Fl. I., 410.

Rich woods and fence corners. Growing into a very large tree in western Ontario, where it attains its greatest dimensions, overtopping other trees of the forest. North-west Arm, Halifax, N.S. (*Lawson.*) Ox Bow, Salmon River, N.B., rare. (*Fowler's Cat.*) Eastern Townships, Q. (*Brunet.*) Abundant throughout Ontario, and as far west as the Kaministiquia River, Lake Superior. (*Macoun.*)

156. NUTTALLIA, Torr. & Gray. (OSO BERRY.)

(576.) **N. cerasiformis,** Torr. & Gray.

Vicinity of Victoria, Vancouver Island, and up the Fraser as far as Yale, B.C. (*Macoun.*)

157. SPIRÆA, Linn. (MEADOW-SWEET.)

(577.) **S. salicifolia,** Linn. Common Meadow-Sweet.)

S. hypericifolia, Marsh. Pursh, 341.
S. hypericifolia, var. *Plunkenetia,* Hook. Fl. I., 171.

Low damp places, generally near ponds and margins of streams, from Newfoundland, Nova Scotia, New Brunswick and westward to the base of the Rocky Mountains. Point Barrow to Mackenzie River on Arctic Sea. (*Pullen.*) The leaves of this species assume a multiplicity of forms.

(578.) **S. tomentosa,** Linn. Hardhack. Steeple Bush.

Low rich grounds. Common in Nova Scotia. (*McKay.*) Rather scarce in New Brunswick. (*Fowler's Cat.*) Not rare in Quebec and extending in Ontario through the northern counties to Muskoka. (*Burgess.*)

(579.) **S. betulifolia,** Pallas. Birch-leaved Spiræa.

S. chamædrifolia, var. *media,* Pursh, 342. Hook. Fl. I., 171.
S. corymbosa, Raf. Gray, Manual, 149.
S. chamædrifolia, var. β., Hook. Fl. I., 171.

Abundant in thickets on the Cypress Hills and in the Bow River

Pass. Common in northern British Columbia. (*Macoun.*) West Butte and S. Kootanie Pass, near the 49th parallel; and Iroquois Creek, near Pine Pass, Rocky Mountains. (*Dawson.*) Sledge Island, in Behring's Straits. (*Menzies.*) Chamisso's Island in Kotzebue Sound; also on the mainland. (*Rothr. Alask.*)

(580.) **S. Douglasii,** Hook. Fl. I., 172.

North-west coast of America, Straits of De Fuca. (*Douglas.*) Coast Range about the head of Salmon River, B.C. (*Dawson.*)

Var. **Menziesii,** Presl.

S. Menziesii, Hook. Fl. I., 173. Macoun's Cat., No. 509.

North-west coast of America. (*Menzies.*) Coast of the Pacific in Johnston's Strait, B.C. (*Dawson.*)

(581.) **S. discolor,** Pursh, 342, var. **ariæfolia,** Watson.

S. ariæfolia, Smith. Hook. Fl. I., 173. Macoun's Cat., No. 510.

Frequent along the west coast, Lat. 40°–49°, forming part of the underwood of the forests. (*Douglas.*) Common around Victoria, Vancouver Island. (*Macoun.*) Along the coast northward from Victoria. (*Dawson.*)

(582.) **S. Aruncus,** Linn. Goat's Beard.

Moist woods near the source of the Columbia, B.C. (*Drummond.*) Woods near McLeod's Lake, B.C., Lat. 55°. (*Macoun.*) Queen Charlotte Islands; Coast Range; and Misinchinca River, B.C. (*Dawson.*) Mountains of Cariboo, B.C. (*Cowley.*)

(583.) **S. pectinata,** Torr. & Gray.

Saxifraga pectinata, Pursh, 312.
Eriogynia pectinata, Hook. Fl. I., 255.

Height of land upon the Rocky Mountains on the west side, near the sources of the Columbia. (*Drummond.*) Behring's Straits. (*Menzies.*) Sitka and about Behring's Straits. (*Rothr. Alask.*)

158. NEILLIA, Don. (NINE BARK.)

(584.) **N. opulifolia,** Benth. & Hook.

Spiræa opulifolia, Linn. Hook. Fl. I., 171. Macoun's Cat., No. 512.

River banks and gravelly shores of lakes. Near Quebec. (*Brunet.*) Isle of Orleans, Q. (*Thomas.*) Island of Montreal. (*Holmes.*) Abundant along the St. Lawrence and Great Lakes and westward to 30

miles up the Kaministiquia, Lake Superior. Also Rainy River and Lake of the Woods. (*Macoun.*) On the Saskatchewan (?). (*Richardson.*)

Var. **mollis,** Brew. & Wat. Bot. Cal. I., 171.

Spiræa capitata, Pursh, 342.

L. opulifolia, var. *mollis*, Hook. Fl. I., 171.

Along the Upper Columbia, B.C. (*Douglas.*)

159. GILLENIA, Mœnch. (INDIAN PHYSIC.)

(585.) **G. trifoliata,** Mœnch.

Spiræa trifoliata, Linn. Michx. Fl. I., 294.

Rich woods; only found on Prince's Island, near Hamilton. (*Logie.*) Canada. (*Pursh.*)

160. RUBUS, Tourn. (BRAMBLE.)

(586.) **R. odoratus,** Linn. Purple Flowering Raspberry.

Rocky and other thickets and fence corners. Cultivated in Nova Scotia, possibly a few plants wild. (*Lawson.*) From Rivière du Loup (*Thomas*) westward throughout Ontario to Goulais Point, Lake Superior. (*R. Bell.*)

(587.) **R. Nutkanus,** Moçino. White Flowering Raspberry.

Rocky thickets, from the Sault Ste. Marie, along the north shore of Lake Superior and westward to Lake Shebandowan, Dawson Route; St. John's Peace River and westward to the Pacific and Vancouver Island. Found throughout British Columbia, and on the eastern side of the Rocky Mountains. (*Macoun.*) S. Kootanie Pass on the 40th parallel, and Queen Charlotte Islands. (*Dawson.*) Sitka. (*Bischoff.*)

(588.) **R. Chamæmorus,** Linn. Cloud Berry.

Specially abundant in the north, and when found at its southern limit, always in cold peat bogs. Abundant in Nova Scotia, Cape Breton, Newfoundland, Labrador, and westward in the forest country, north of Lat. 54° to the Pacific. Northward to the Arctic Sea. Peat bogs, N.B., rather rare. (*Fowler's Cat.*) Common in peat bogs, along the Gaspé coast and at Rivière du Loup. (*Thomas.*) Peat bog at the base of the Porcupine Mountain, Man., Lat. 53°. (*Macoun.*) Greenland. (*Hook. Arct. Pl.*)

(589.) **R. arcticus,** Linn. Arctic Raspberry.

Peat bogs and northern spruce woods. Labrador and Anticosti. (*Brunet.*) Newfoundland. (*Torrey & Gray.*) Top of Mount Albert, Shickshock Mountains, Gaspé, Q. Peat bog, north-west angle of the Lake of the Woods, wet woods and swamps, Porcupine Mountain, Man., Lat. 53°, and occasionally through the forest region to Peace River, and Northern British Columbia. (*Macoun.*) Oxford House to Knee Lake; Churchill River and east coast of Hudson's Bay. (*R. Bell.*) Kotzebue Sound and Bay of Good Hope. (*Chamisso.*)

Var. **grandiflorus,** Ledeb.

R. acaulis, Michx. Hook. Fl. I., 182.
R. pistillatus, Smith. Richards. Frankl. Journ., 11.
R. propinquus, Richards. Frankl. Journ., 2nd Ed., 19.

In sphagnous swamps, Hudson's Bay. (*Michaux.*) From the Saskatchewan, in Lat. 53°, to Fort Franklin, in Lat. 66°. (*Richardson.*) From Labrador to the woods and swamps of the Rocky Mountains, Lat. 52°–56. (*Drummond.*) Northern British Columbia (*Macoun & Dawson*) This and the normal form are often confounded, but the zigzag stem of the latter and the large flowers of the former easily distinguish them.

(590.) **R. Dalibarda,** Linn.

Dalibarda repens, Linn. Hook. Fl. I., 184. Macoun's Cat., No. 564.
D. violoides, Michx. Fl. I., 299.

Pictou, N.S., and along the Bay of Fundy, not common. (*McKay.*) In dry, mossy woods, N.B. (*Fowler's Cat.*) Common in many parts of Quebec. (*Brunet.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Millgrove marsh, near Hamilton, Ont. (*Logie.*) Gore Bay, Lake Huron. (*J. Bell.*) Elliott's Falls, Peterboro Co., Ont. (*Macoun.*) Lake Huron. (*Todd.*) Chatham, Ont. (*McGill Coll. Herb.*)

(591.) **R. pedatus,** Smith. Creeping Raspberry.

Northwest coast, as far north as Observatory Inlet, Lat. 55°. (*Douglas.*) In shady woods, at the roots of rotten trees, on the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Creeping amongst rotten wood near Macleod's Lake, B.C. (*Macoun.*) On the mountains above Fort Hope and on the coast range near Bute Inlet, B.C. (*Dawson.*) Sitka. (*Rothr. Alask.*)

(592.) **R. triflorus,** Richards. Dew Berry.

R. saxatilis, var. *Canadensis,* Michx. Fl. I., 298.
R. mucronatus, Seringe. Hook. Fl. I., 182.

In mossy woods or cedar swamps, from the Atlantic to the Pacific,

but not extending very far to the north, though common at York Factory, Hudson's Bay. Coast of Labrador. (*McGill Coll. Herb.*)

(593.) **R. stellatus,** Smith.

Near Foggy Harbor on the north-west coast of America. (*Menzies.*) This is an obscure and little-known species.

(594.) **R. strigosus,** Michx. Red Raspberry.

R. Idæus, Pursh, 346.
R. Idæus, var. *Canadensis,* Richards. Frankl. Journ., 11.

Coast of Labrador. (*McGill Coll. Herb.*) Very abundant from Nova Scotia to the Coast Range in British Columbia. In woods, after being burnt over, this species produces enormously, and might be made a source of profit to the settlers in the lumbering districts.

(595.) **R. neglectus,** Peck.

R. intermedia, Macoun's Cat., No. 579.

Thickets and fence corners, clearly a hybrid between the preceding and the next. One mile below Shannonville station, and not uncommon around Belleville and in the counties of Hastings and Northumberland. Also near Amherstburg, Ont. (*Macoun.*)

(596.) **R. occidentalis,** Linn. Black Raspberry.

Rich moist woods and on old stumps of trees in cultivated fields. Very common throughout Ontario. Scarcer in the Province of Quebec, extending eastward to below Quebec City. (*Brunet.*) Keswick Ridge, also said to occur in Westmoreland County, N.B. (*Hay.*)

(597.) **R. spectabilis,** Pursh.

Along the coast of British Columbia, west of the Coast Range. Vancouver and Queen Charlotte Islands. (*Macoun & Dawson.*) Sitka, Kodiak, and Cape St. Elias. (*Rothr. Alask.*)

(598.) **R. leucodermis,** Dougl.

R. occidentalis, var. *β,* Hook. Fl. I., 178.

North-west coast of America, and near the sources of the Columbia. (*Douglas.*) Along the Fraser River above Boston Bar, B.C. (*Macoun*)

(599.) **R. ursinus,** Cham. & Schlecht.

R. vitifolius, Torr. & Gray, Fl. I., 450.
R. macropetalus, Dougl. Hook. Fl. I., 178. Macoun's Cat., No. 573.

Banks of rivers and low woods, in the valley of the Columbia. (*Douglas.*) Vancouver Island near Victoria. (*Macoun.*) Coast Range and Queen Charlotte Islands. (*Dawson.*)

(600.) **R. villosus,** Ait. Thimble Berry.

Common in sandy woods and old clearings from Nova Scotia to Loon Portage on the Dawson Route, west of Lake Superior. (*Macoun.*)

Var. **frondosus,** Torrey.

R. inermis, Willd. Pursh, 348.
R. suberectus, Hook. Fl. I., 179.

Newfoundland. (*Cormack.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Abundant along the Grand Trunk Railway at Shannonville and at the Carrying Place, head of the Bay of Quinte, Ont. (*Macoun.*) Between Lake Superior and Lake Winnipeg. (*Richardson.*)

Var. **humifusus,** Torr. & Gray.

Pictou, N.S. (*McKay.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Railway track at Niagara Falls. (*Macoun.*) Near London, Ont. (*Burgess.*)

(601.) **R. Canadensis,** Linn.

R. flagellaris, Willd. Pursh, 347.
R. trivialis, Pursh. Hook. Fl. I., 180.

Thickets and rocky hills. Newfoundland. (*Morrison.*) Rather common in Nova Scotia. (*McKay.*) Rocky places and thickets, N.B., common. (*Fowler's Cat.*) Not uncommon in Quebec. (*Brunet.*) Frequent in Ontario, extending to Lake Superior. (*Macoun.*)

(602.) **R. hispidus,** Linn. Swamp Blackberry.

R. obovalis, Michx. Fl. I., 298.
R. obovatus, Ell. Hook. Fl. I., 180.

Trailing amongst grass in swampy ground. Pictou and Halifax, N.S. (*McKay.*) Fredericton and other localities, N.B., rather rare. (*Fowler's Cat.*) Near Montreal. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Woods north of Prescott Junction. (*Billings.*) Beaver meadows and marshy flats throughout the northern portions of Addington, Hastings and Peterboro Counties, Ont. (*Macoun.*) Nicolet and Niagara, Ont. (*Maclagan.*) Common in swamps at London and Sarnia, Ont. (*Burgess.*)

Var. **setosus,** Torr. & Gray.

R. setosus, Bigel. Hook. Fl. I., 179.

About Montreal. (*Vide Hooker, p.* 180.) The var. is most probably the eastern form of the species and ought to be compared with authentic specimens.

(603.) **R. nivalis,** Dougl. Hook. Fl. I., 181.

On the high snowy ridges of the Rocky Mountains. (*Douglas.*) This is an obscure species and should be looked for about the sources of the Columbia.

161. PURSHIA, DC. ("CHAPPARAL.")

(604.) **P. tridentata,** DC.

Tigarea tridentata, Pursh, 333.

Osoyoos Lake, southern boundary of British Columbia. (*Dawson.*)

162. DRYAS, Linn. (DRYAS.)

(605.) **D. octopetala,** Linn.

Rocky Mountains, Lat. 52°–56°, sometimes with double flowers. (*Drummond.*) On the top of Stuart Lake Mountain, B. C., and on Mount Selwyn, Peace River Pass, Lat. 56°. (*Macoun.*) Coast Range, near Bute Inlet, B. C., and on the Rocky Mountains, S. Kootanie Pass. (*Dawson.*) Kotzebue Sound to Port Clarence and northern shore. (*Rothr. Alask.*) Cape Lisburne, in Behring's Straits. (*Beechey.*) Shores and islands of the Arctic Sea. (*Franklin.*) Greenland. (*Hook. Arct. Pl.*)

Var. **integrifolia,** Cham. & Schlecht.

D. integrifolia, Vahl. Hook. Fl. I., 174. Macoun's Cat., No. 522.
D. tenella, Pursh, 350.

Island of Anticosti. (*Goldie.*) Labrador. (*Butler.*) Churchill River and east coast of Hudson's Bay. (*R. Bell.*) In dry and rocky places from Lat. 54° to the islands of the Arctic Sea, where it is abundant. (*Richardson.*) Extending westward to Behring's Straits. (*Chamisso.*) Rocky Mountains, Lat. 52°–56°, especially on the more elevated ridges. (*Drummond.*) Top of Mount Selwyn, Peace River Pass. (*Macoun.*)

(606.) **D. Drummondii,** Hook.

On gravelly beaches and bars of rivers. Dartmouth, and Ste. Anne des Monts, Rivers, Gaspé, Q. Gravel bars in the Bow River at and above Morley; Peace River, within the Rocky Mountains, and west to the Blackwater River, B.C. (*Macoun.*) Island of Anticosti. (*Pursh.*) Slate Islands, Lake Superior. (*Prof. Ellis.*) In the woody country, Lat. 54°–64°, and about Slave and Bear Lakes, as far as the mouth of Bear Lake River, and thence to the shores of the Arctic Sea. (*Richardson.*) Gravelly battures of alpine rivers, Lat. 52°–56°. (*Drummond.*) Rocky Mountains, Kootanie Pass. (*Dawson.*)

163. GEUM, Linn. (AVENS.)

(607.) **G. album,** Gmelin.

G. Virginianum, Murr. Hook. Fl. I., 176.

Borders of damp or rich woods. Windsor and Truro, N.S. (*How.*) Woodstock, rare; Keswick Ridge, N.B. (*Fowler's Cat.*) Vicinity of Quebec; Charleburg. (*Brunet.*) Rivière du Loup, Q. (*Thomas.*) Valley of the Rouge, Q. (*D'Urban.*) Very abundant in western Quebec. (*McGill Coll. Herb.*) Plentiful throughout Ontario from the east to Owen Sound. (*Macoun.*)

(608.) **G. Virginianum,** Linn.

Borders of fields in rich soil, rare. Hampton and Petitcodiac, N.B. (*J. Brittain.*) Along the Grand Trunk Railway, three miles east of Belleville, Ont.; also Township of Brighton, Northumberland Co., Ont. (*Macoun.*) Chippawa and Malden, Ont. (*Maclagan.*) Near London, Ont. (*Burgess.*)

(609.) **G. macrophyllum,** Willd.

G. strictum, var. β, Hook. Fl. I., 175.

Cold, rocky or mountain woods. Truro, Middleton and Guysboro', N.S. (*Lawson & Ball.*) Bathurst, N.B. (*McGill Coll. Herb.*) Hudson's Brook, Kent Co., also St. John, N.B., not common. (*Fowler's Cat.*) Rivière du Loup, Q. (*Thomas.*) Knowlton, Eastern Townships, Q. (*McGill Coll. Herb.*) North-east shore of Lake Superior, between the Pic River and Otter Head; American Portage, Dawson Route, west of Lake Superior. (*Macoun.*) Coast Range near Bute Inlet; and Queen Charlotte Islands. (*Dawson.*) Sitka and Ounalashka. (*Rothr. Alask.*)

(610.) **G. strictum,** Ait.

G. Canadense, Murr. Michx. Fl. I., 300.

From Newfoundland and Nova Scotia to the Coast Range in British Columbia. A very common species in thickets and fence corners in the east, and on the borders of ravines and low prairies in the west.

(611.) **G. vernum,** Torr. & Gray.

Open, damp woods, Amherstburg, on Lake Erie. (*Macoun.*)

(612.) **G. rivale,** Linn. Purple Avens.

Around springs and in boggy places. Common from Nova Scotia and Newfoundland to the Coast Range, B.C.

(613.) **G. triflorum,** Pursh.

G. ciliatum, Pursh, 352.
G. pubescens, Hook. Fl. I., 175.
Sieversia triflora, R. Br. Hook. Fl. I., 176.

Rocky ground, on dry ridges. Labrador. (*Morrison.*) Newfoundland. (*Cormack.*) Limestone rocks, east of Trenton Station, on the Grand Trunk Railway; also, on the same line in a rock cutting, east of Shannonville Station, Ont. (*Macoun.*) Vicinity of London. (*Burgess.*) Galt, Ont. (*Buchan.*) Abundant on the western prairies, and extending to Peace River and through the Rocky Mountains to British Columbia. (*Macoun.*) Lake Athabasca. (*Richardson.*)

(614.) **G. calthifolium,** Menzies.

G. radiatum, Pursh, 352, not Michaux.
Sieversia dilitata, R. Br., in Parry's 1st Voy. 276.
S. radiata, Hook. Fl. I., 177, not R. Br.

North-west coast of America. (*Menzies.*) Ounalashka and Sitka. (*Rothr. Alask.*)

(615.) **G. glaciale,** Fisch.

Sieversia glacialis, R. Br. Hook. Fl. I., 176.

Shores of the Arctic Sea, west of the Mackenzie River. (*Franklin.*) Cape Lisburne, in Behring's Straits. (*Beechy.*) Kotzebue Sound. (*Rothr. Alask.*)

(616.) **G. Rossii,** Seringe.

Sieversia Rossii, R. Br. Hook. Fl. I., 176.

Melville Island. (*Parry.*) Ounalashka. (*Rothr. Alask.*) Bay of St. Lawrence. (*Chamisso.*) Islands north of Lancaster Sound and Greenland. (*Hook. Arct. Pl.*)

Var. **humile,** Torr. & Gray.

Sieversia humilis, R. Br. Hook. Fl. I., 176.

Ounalashka. (*Chamisso.*)

164. WALDSTEINIA, Willd. (BARREN STRAWBERRY.)

(617.) **W. fragarioides,** Tratt.

Dalibarda fragarioides, Michx. Fl. I., 300.
Comaropis fragarioides, Nestler. Hook. Fl. I., 177.

Wooded hillsides, quite common in Ontario, from Ottawa to Cockburn Island, in Lake Huron. Generally on dry, sandy soil.

165. SIBBALDIA, Linn. (SIBBALDIA.)

(618.) **S. procumbens,** Linn.

Potentilla procumbens, DeClairv. Macoun's Cat., No. 541.

Coast of Labrador. (*McGill Coll. Herb.*) On the top of Mount Albert, Shickshock Mountains, Gaspé, Q. (*Macoun.*) Mountain top, S. Kootanie Pass; Coast Range, B. C. (*Dawson.*) Swamp Creek, northern British Columbia. (*Macoun.*) Prairies, and upon the heights of the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Ounalashka. (*Chamisso.*) Greenland. (*Hook. Arct. Pl.*)

166. CHAMÆRHODOS, Bunge.

(619.) **C. erecta,** Bunge.

Sibbaldia erecta, Linn. Pursh, 211.

Dry, gravelly slopes and hillsides throughout the prairie region. (*Macoun.*) About Carlton, on the Saskatchewan. (*Richardson.*) Among the Rocky Mountains, Lat. 52°–56°. (*Drummond.*)

167. FRAGARIA, Tourn. (STRAWBERRY.)

(620.) **F. Virginiana,** Duchesne. Wild Strawberry.

F. Canadensis, Michx. Hook. Fl. I., 185.

Abundant from Newfoundland and Nova Scotia to the Coast Range of British Columbia, and north to Lat. 64°. It bears fruit abundantly everywhere, but more particularly on newly cleared lands.

(621.) **F. vesca,** Linn. Wood Strawberry.

This is a forest species, fruiting abundantly in grassy woods. Not so common as the other, but having the same range to the west. It seems to be confined to a more southern latitude, as it has not been found north of Lat. 56° on Peace River.

(622.) **F. Chilensis,** Duchesne.

Common along the shores of British Columbia and Vancouver Island and extending north to "Point Bodugo". (*Scouler.*) This is the strawberry found west of the Coast Range.

Var. **Scouleri,** Hook. Fl. I., 185.

F. Chilensis, var. β & γ in part, Torr. & Gray, Fl. I., 448.

Queen Charlotte Islands. (*Dawson.*)

168. POTENTILLA, Linn. (CINQUE-FOIL. FIVE-FINGER.)

(623.) **P. arguta,** Pursh.

Dry rocky thickets and open prairies. Keswick Ridge, N.B. (*Moser.*) Devil's Rapids, River Rouge, Q. (*D'Urban.*) From the vicinity of Ottawa this species is more or less abundant to northern British Columbia on the Nachacco River. (*Macoun.*) In the Nicola Valley, B.C. (*Dawson.*) Woody country as far north as Lat. 65°. (*Richardson.*)

(624.) **P. glandulosa,** Lindl.

P. arguta, Lehm. Hook. Fl. I., 186, in part.
P. fissa, Nutt. Torr. & Gray, Fl. I., 446.

Rocky Mountains in the S. Kootanie Pass, and along the southern border of British Columbia. (*Dawson.*)

(625.) **P. Norvegica,** Linn.

Very abundant in cultivated grounds, river bottoms and on lake shores. From Nova Scotia to the Rocky Mountains, and as far north as Bear Lake. (*Richardson.*) Hudson's Bay. (*R. Bell.*) Labrador coast. (*Butler.*) Sitka and Point Barrow to the Mackenzie River. (*Rothr. Alask.*)

Var. **hirsuta,** Torr. & Gray.

P. hirsuta, Michx. Hook. Fl. I., 193.

From Quebec to the Gulf of St. Lawrence. (*Michaux.*) Plains of the Saskatchewan. (*Richardson.*) Lake Mistassini. (*J. Richardson.*) Borders of ponds and lakes, prairie region; and doubtless frequent in Ontario. (*Macoun.*)

(626.) **P. rivalis,** Nutt., var. **millegrana,** Watson.

P. millegrana, Engelm. Macoun's Cat., No. 535.

Borders of ponds and lakelets in the south-western part of the prairie region. Rather common. (*Macoun.*)

(627.) **P. supina,** Linn.

P. paradoxa, Nutt. Torr. & Gray, Fl. I., 437.

Borders of lakes and ponds. Burlington Beach, Hamilton, Ont. (*Buchan.*) Shores of Toronto Island and westward up the lake shores to Amherstburg, Ont. Abundant on the shores of Long Lake, Old Wives' Lakes, Gull Lake, and many others in the prairie region. (*Macoun.*)

(628.) **P. Pennsylvanica,** Linn.

Dry, gravelly soil. North shore of St. Lawrence, Murray Bay.

(*McGill Coll. Herb.*) St. Croix; Rivière du Loup, Q. (*Prunet.*) St. Roche des Autruts, Q. (*Maclagan.*) Lake Superior. (*Prof. Ellis.*) On gravel beaches, both above and below Mont Louis, Gaspé coast, Q. Very abundant on the western plains and through the Rocky Mountains to Spence's Bridge, in British Columbia. (*Macoun.*) As far north as Bear Lake, and from Hudson's Bay to the Rocky Mountains. (*Richardson.*) Churchill River and near York Factory. (*R. Bell.*) Kotzebue Sound. (*Rothr. Alask.*)

Var. **strigosa,** Pursh, 356.

Abundant on the western plains and near Cache Creek, in Britis Columbia. The common form in the prairie region. (*Macoun.*)

Var. **bipinnatifida,** Torr. & Gray.

P. bipinnatifida, Dougl. Hook. Fl. I., 188.

Plains of the Saskatchewan and Red Rivers. (*Douglas.*) Vicinity of Old Wives' Lakes, N.W.T., and westward. (*Macoun.*)

Var. **glabrata,** Watson.

P. sericea, var. *glabrata*, Hook. Fl. I., 189.

Rocky Mountains, Lat. 52°–56°. (*Drummond.*)

(629.) **P. Hookeriana,** Lehm.

Collected on the Saskatchewan; locality not stated. (*Bourgeau.*) British America. (*Watson.*) We have never met with this species.

(630.) **P. pulchella,** R.Br.

Islands of the Arctic Sea. (*Ross.*) Shores of the mainland between the Coppermine and Mackenzie Rivers. (*Richardson.*) Greenland. (*Hook. Arct. Pl.*) Mackenzie River. (*McGill Coll. Herb.*)

(631.) **P. Hippiana,** Lehm.

P. Pennsylvanica, var. *Hippiana*, Torr. & Gray, Fl. I., 438.

Plains of the Saskatchewan and Red Rivers and prairies of the Rocky Mountains. (*Drummond.*) Very abundant in the prairie region, extending to the Rocky Mountains and British Columbia, below Cache Creek. (*Macoun.*) Pine River, Lat. 55°. (*Dawson.*)

Var. **pulcherrima,** Watson.

P. pulcherrima, Hook. Fl. I., 190.
P. Pennsylvanica, var. *pulcherrima*, Torr. & Gray, Fl. I., 438.
P. rubricaulis, Pl. Bourgeau, 256.

On the prairies as well as on dry banks, in the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Point Wilkins, Lake Winnepegoosis, Man.

On limestone rocks near Stuart Lake, and at Cache Creek, B.C. (*Macoun.*)

(632.) **P. effusa,** Dougl.

On elevated grounds of the Assiniboine, and the higher parts of the Red River, plentiful. (*Douglas.*) Very common on the Souris Plain, but seems to merge into the preceding species farther to the west. (*Macoun.*)

(633.) **P. Plattensis,** Nutt.

P. sericea, var. *β*, Pl. Bourgeau, 256.

Very common from Cut Arm Creek, N.W.T., westward, and southward towards the 49th parallel on saline, marshy soils. (*Macoun.*) Saskatchewan Plains. (*Bourgeau.*)

(634.) **P. dissecta,** Pursh. Hook. Fl. I., 193.

P. diversifolia, Hook. Fl. I., 190. Macoun's Cat., No. 548.
P. Drummondii, Hook. Fl. I., 189. Macoun's Cat., No. 556.
P. rubricaulis, Hook. Fl. I., 191.

York Factory and Echimamish River. (*R. Bell.*) Near Hudson's Bay. (*Pursh.*) About Bear Lake, in Lat. 66°. (*Richardson.*) Alpine woods and prairies in the Rocky Mountains, as well as on the higher summits, Lat. 52°–56°. (*Drummond.*) Rocky Mountains in the S. Kootanie Pass, and on the Coast Range, B.C. (*Dawson.*) Great Slave Lake. (*McGill Coll. Herb.*)

(635.) **P. gracilis,** Dougl. Hook. Fl. I., 192.

P. nivea, var. Pl. Bourgeau, 256.

Common throughout the western prairies and extending into British Columbia.

Var. **flabelliformis,** Torr. & Gray.

P. flabelliformis, Hook. Fl. I., 192. Macoun's Cat., 549.

Plains of the Saskatchewan. (*Drummond..*) Abundant on the western prairies. (*Macoun.*)

Var. **fastigiata,** Watson.

P. fastigiata, Nutt. Torr. & Gray, Fl. I., 440.

Old Wives Lakes, N.W.T., and westward, rare. (*Macoun.*)

Var. **rigida,** Watson.

P. chrysantha, Hook. Fl. I., 193.
P. rigida, Nutt. Torr. & Gray, Fl. 1, 440.
P. Nuttallii, Lehm. Macoun's Cat., No. 554.

Moist prairies near the Rocky Mountains. (*Drummond.*) In low

spots where water gathers in the spring, and near the margins of the larger pools and depressions in the prairie. The commonest form of the species. (*Macoun.*)

(636.) **P. pilosa,** Willd.

On bank of the Canada Southern Railway, a little above the Clifton House, Niagara Falls. A fine clump of this species was found growing here in great luxuriance in July, 1882. Its tall rigid stems and light yellow flowers distinguish it from *P. gracilis*, its near ally. This species evidently came from southern Europe.

(637.) **P. argentea,** Linn. Silvery Cinque-foil.

Introduced into dry fields and pastures. In some localities probably indigenous. Halifax, Truro, Margaretville, and Kentville, N.S. (*McKay.*) Norton, N.B. (*Fowler's Cat.*) Rivière du Loup, Q. (*Thomas.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Field, back of the Drill Shed, Kingston, Ont.; sandy fields, Picton, Ont; near Colborne, Ont., in a field; and abundant on vacant lots near St. James' Cemetery, Toronto. (*Macoun.*) Dry fields near London, Ont. (*Burgess.*)

(638.) **P. humifusa,** Nutt.

P. concinna, Richards. Hook. Fl. I., 193. Macoun's Cat., No. 555.

Plains of the Saskatchewan about Carlton. (*Drummond.*) On the tops of gravel knolls or hills throughout the prairie region, but rare. (*Macoun.*)

(639.) **P. nivea,** Linn. Hook. Fl. I., 195.

Labrador. (*Hooker.*) Churchill River. (*R. Bell.*) Dry and elevated ridges of the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Mackenzie River. (*McGill Coll. Herb.*) Shores of the Arctic Sea. (*Richardson.*) Islands of the Arctic Sea. (*Parry.*) Kotzebue Sound, and coast west of Cape Bathurst. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

Var. **Vahliana,** Seem.

P. Vahliana, Hook. Fl. I., 194.
P. nivea, var. γ, Torr. & Gray, Fl. I., 441.

Alpine prairies of the Rocky Mountains. (*Drummond.*) Shores of the Arctic Sea. (*Richardson.*) Islands of the Arctic Ocean. (*Parry.*) Greenland. (*Hook. Arct. Pl.*)

Var. **dissecta,** Watson.

Rocky Mountains at the head of Smoky River. (*Watson.*) This is a very variable species.

(640.) **P. fragiformis,** Willd. Hook. Fl. I., 194.

In the Aleutian Islands. (*De Candolle.*) St. Paul's Island. (*Harrington.*)

Var. **villosa,** Regel.

P. villosa, Pall. Hook. Fl. I., 194.

From Vancouver Island to Alaska. (*Watson.*) Queen Charlotte Islands. (*Dawson.*) Kotzebue Sound, Ounalashka and Sitka. (*Rothr. Alask.*) Dundas Island, B.C. (*Scouler.*)

(641.) **P. maculata,** Pour.

P. Salisburgensis, Hænke. Torr. & Gray, Fl. I., 440.
P. opaca, Pursh, 355, not Linn. Hook. Fl. I., 191.

Labrador. (*McGill Coll. Herb.*) Greenland. (*Hook. Arct. Pl.*)

(642.) **P. frigida,** Villars.

P. minima, Gray. Manual, 1st ed., 122.

Mackenzie River eastward to Baffin's Bay, and north to Melville and other Arctic Islands; also Greenland. (*Hook. Arct. Pl.*)

(643.) **P. emarginata,** Pursh. Hook. Fl. I., 194.

P. nana, Willd. Hook. Fl. I., 194.
P. Grœnlandica, R.Br. in Ross's Voy., 142.
P. nivea, var. *concolor,* Torr. & Gray, Fl. I., 441.

On the most elevated of the Rocky Mountains. (*Drummond.*) Labrador. (*Kohlmeister.*) Kotzebue Sound, and between Point Barrow and Mackenzie River. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(644.) **P. gelida,** C. A. Meyer.

P. flabellifolia, Hook. Torr. & Gray, Fl. I., 442.

Summit of the Cascade Range, near Hope, B.C. (*Dawson.*) Cascade Mountains. (*Lyall.*)

(645.) **P. palustris,** Scop. Marsh Five-Finger.

Comarum palustre, Linn. Pursh, 156.

Very common in marshes and bogs from Labrador and Nova Scotia to the Pacific, and north to the Arctic Sea. Sitka and Island of St. Lawrence. (*Rothr. Alask.*)

(646.) **P. biflora,** Willd.

Barren grounds, from Lat. 64° to the shores of the Arctic Sea. (*Richardson.*) Kotzebue Sound and Cape Lisburne. (*Rothr. Alask.*)

(647.) **P. fruticosa,** Linn. Shrubby Cinque-foil.

Common on the rocky margins of rivers and lakes from Labrador and Newfoundland to the Pacific, and northward to the Arctic Sea. Besides being frequent in Eastern Canada at low altitudes, it becomes truly alpine in the Rocky Mountains and is found almost at the snow line. Greenland. (*Hook. Arct. Pl.*)

(648.) **P. tridentata,** Solander.

Labrador and Newfoundland, Nova Scotia and New Brunswick, Lower St. Lawrence, top of Belœil Mountain, at Three Rivers, north and south shores Lake Huron and Lake Superior, and westward through the wooded country to the Rocky Mountains in the Peace River Pass, and northward to Lat. 64°. It seems to thrive equally well on rocks or sand. (*Macoun.*) Greenland. (*Hook. Arct. Pl.*)

(649.) **P. Anserina,** Linn. Silver Weed.

Very abundant along the eastern coast and on the margins of all rivers and lakes throughout the interior and northward to the Arctic Sea. (*Macoun.*) Greenland. (*Hook. Arct. Pl.*)

Var. **grandis,** Lehm. Hook. Fl. I., 189.

Vancouver Island and Queen Charlotte Islands, and doubtless along the coast of British Columbia. (*Macoun & Dawson*)

Var. **Grœnlandica,** Tratt.

P. Anserina, var. *Egedii*, Torr. & Gray, Fl. I., 444.

Whale Fish Islands. (*Parry.*)

(650.) **P. Canadensis,** Linn.

P. pumila, Poir. Pursh, 354.

Pictou and Halifax, N. S. (*McKay.*) Vicinity of Quebec; St. Hyacinthe, Q. (*Brunet.*) Abundant at Rivière du Loup, Q. (*Thomas.*) Vicinity of Montreal. (*McGill Coll. Herb.*) Very common on sandy soil both in fields and open woods throughout Ontario to Lake Huron.

Var. **simplex,** Torr. & Gray, Fl. I., 443.

P. simplex, Michx. Hook. Fl. I., 193.

Common in fields, N.B. (*Fowler's Cat.*) About Quebec City. (*Sheppard.* Abundant in damp woods at Amherstburg, Ont. (*Macoun.*)

(651.) **P. nemoralis,** Nestler. Torr. & Gray, Fl. I., 444.

P. Tormentilla, var. *nemoralis*, Seringe.

P. Tormentilla, Lawson.

Labrador. (*Hooker*, vide *Torr. & Gray.*) St. Ann's, Cape Breton. (*Lawson.*)

Watson, in his revision of *Potentilla*, doubts the occurrence of this species in America, but Dr. Lawson found it some years ago, as cited above.

169. ALCHEMILLA, Tourn. (LADIES' MANTLE.)

(652.) **A. arvensis,** Scop. Parsley Piert.

A. Aphanes, Pursh, 112.

A. cuneifolia, Nutt. Torr. & Gray, Fl. I., 432.

A. occidentalis, Nutt. Macoun's Cat., No. 516.

Abundant on dry gravelly hills and along the coast, near Victoria, Vancouver Island. (*Macoun.*) Lucyfield, N.S. (*Lawson.*)

(653.) **A. vulgaris,** Linn.

South coast of Labrador. (*Butler.*) Greenland. (*Hook. Arct. Pl.*)

170. AGRIMONIA, Tourn. (AGRIMONY.)

(654.) **A. Eupatoria,** Linn. Common Agrimony.

A. pilosa, Pl. Bourgeau. 256. Macoun's Cat., No. 517.

Rich moist thickets or borders of woods. Abundant from Nova Scotia westward to near the Rocky Mountains.

Var. **parviflora,** Hook. Fl. I., 196.

A. striata, Michx. Fl. I., 287.

This seems to be a little-known form, and requires investigation. It should be looked for in western Ontario. (*Macoun.*) Lake Huron. (*Todd.*)

(655.) **A. parviflora,** Ait.

A. Eupatoria, Michx. Fl. I., 287, chiefly.

A. suaveolens, Pursh, 336.

This species may be the form referred to by Hooker, and the above variety have no existence in Ontario. In woods near Amherstburg, Ont., 1882. (*Macoun.*) Malden, Ont. (*Maclagan.*)

171. POTERIUM, Linn. (BURNET.)

(656.) **P. Canadense,** Benth. & Hook.

Sanguisorba Canadensis, Linn. Hook. Fl. I., 198.
S. media, Linn. Pursh, 116.

Newfoundland. (*J. Bell.*) St. Paul's, and Magdalen Islands, Gulf of St. Lawrence. (*McKay.*) Truro, N.S. (*McGill Coll. Herb.*) Very abundant from Port Daniel, along the Bay of Chaleur and the whole coast of Gaspé. (*Macoun.*) Cacouna, Q. (*Ellis.*) South coast of Labrador. (*Butler.*) Savanne, Q. (*Holmes.*) Northern British Columbia, near Macleod's Lake. (*Macoun.*) Coast Range, near Bute Inlet, and on the Misinchinca River, Pine Pass, Rocky Mountains. (*Dawson.*) Grassy pastures in the valleys of Ounalashka, Buckland River, Sitka, Fort Youcon and Youcon River banks. (*Rothr. Alask.*)

(657.) **P. officinale,** Benth. & Hook.

Sanguisorba officinalis, Linn. Hook. Arct. Pl., 290.

Alaska. (*Kennicott.*) Arctic America, east of Mackenzie River. (*Hook. Arct. Pl.*)

(658.) **P. Sitchense,** Watson.

Sanguisorba media, Hook. Fl. I., 197.
S. Canadensis, var. *latifolia*, Hook. Fl. I., 198.

Observatory Inlet, North-west coast. (*Scouler.*) It is probable that *all* western localities of *P. Canadense* refer to this species. (*Macoun.*)

172. ROSA, Tourn. (ROSE.

(659.) **R. setigera,** Michx. Fl. I., 295. Climbing Rose.

Borders of thickets and along fences, at Amherstburg, Ont., and on Pelee Island, Lake Erie. (*Macoun.*) Malden, Ont. (*Maclagan.*)

(660.) **R. Carolina,** Linn. Swamp Rose.

R. Pennsylvanica, Michx. Fl. I., 296, in part.

Borders of swamps and damp thickets, from Nova Scotia and New Brunswick to the western part of Ontario.

(661.) **R. lucida,** Ehrh. Dwarf Wild Rose.

Newfoundland. (*Hook. Fl.* I., 199.) Pictou, Cape Breton, and Magdalen Islands, N.S. (*McKay.*) Lucyfield, N.S. (*Lawson.*) Common

in New Brunswick. (*Fowler's Cat.*) Common in Quebec and Ontario and west to Lake Huron.

(662.) **R. blanda,** Ait. Early Wild Rose.

R. Pennsylvanica, Michx. Fl. I., 296, in part.
R. Woodsii,, Torr. & Gray, Fl. I., 460. Macoun's Cat., 584.
? *R. lævigata*, Borrer. Hook. Fl. I., 200.

Thickets and old fields, very common, from Quebec westward t British Columbia. On the western prairies and in British Columbi this species is not well defined and requires more investigation (*Macoun.*) Pictou and Magdalen Islands, N.S. (*McGill Coll. Herb.*)

Var. **setigera,** Crépin.

R. Woodsii, var., Hook. Fl. I., 199. Macoun's Cat., No. 584.
R. stricta, var. β. Torr. & Gray, Fl. I., 461.
R. stricta, Macoun & Gibson. Macoun's Cat., 584.

Harbor Grace, Newfoundland. (*McGill Coll. Herb.*) Cumberlan House on the Saskatchewan. (*Drummond.*) Whiskey Island, Lak Huron. (*J. Bell.*) North and east shores of Lake Superior, an frequent on the northern prairies. (*Macoun.*)

(663.) **R. acicularis,** Lindl. Var. **Bourgeauiana,** Crépin.

R. blanda, Richards. in Frankl. Journ., 11.
R. cinnamomea, var. β. Torr. & Gray, Fl. I., 459.
R. Bourgeauiana, Crépin, l. c., 303.

This species is doubtless confounded with the preceding variety, bu in the absence of a monograph of the western roses, I am unable t separate them. (*Macoun.*) Saskatchewan. (*Bourgeau.*)

(664.) **R. Californica,** Cham. & Schlecht.

R. fraxinifolia, Macoun's Cat., No. 582.

Qualcho Lake, northern British Columbia. (*Dawson.*) Common i woods around Victoria, Vancouver Island. (*Macoun.*)

(665.) **R. gymnocarpa,** Nutt.

Common in the valley of the Lower Fraser, and around Victori Vancouver Island. (*Macoun.*)

(666.) **R. Nutkana,** Presl.

R. cinnamomea, Hook. Fl. I., 200.
R. fraxinifolia, Hook. Fl. I., 199.

North-west coast of America. (*Menzies.*) Queen Charlotte Island (*Douglas.*) Sitka; Point Barrow to Mackenzie River; Fort Youco (*Rothr. Alask.*) Eastward of the Mackenzie River. (*Hook. Arct. Pl.*

(667.) **R. nitida,** Willd. Pursh, 344.

R. blanda, Pursh, 334 & 749.

Newfoundland. (*Morrison.*) Possibly mixed with *R. lucida*, in the Eastern Provinces. (*Macoun.*)

(668.) **R. parviflora,** Ehrh.

R. Caroliniana, Michx. Fl. I., 295.
R. Lyonii, Pursh, 345.

Along Belly River, N.W.T., 1881. (*Dawson.*)

(669.) **R. rubiginosa,** Linn. Sweet Briar.

R. suaveolens, Pursh, 346.

Introduced and run wild. Old Windsor Road; also, near Bedford, N.S. (*Lawson.*) Common in gardens and about dwellings, N. B. (*Fowler's Cat.*) Borders of cultivated grounds, Q. (*Brunet.*) Along roadsides, in fields in all the old settlements of Ontario.

(670.) **R. micrantha,** Smith.

Sparingly escaped from cultivation in a few localities. Montreal and vicinity. (*McGill Coll. Herb.*) Vicinity of Kingston, Ont. (*J. Bell.*) Vicinity of Hamilton, Ont. (*Buchan*)

NOTE.—There is much confusion regarding the distribution of the roses, and both in the east and west collectors should aim to get *complete* specimens of every species.

173. PIRUS, Linn. (PEAR. APPLE.)

(671.) **P. coronaria,** Linn. American Crab-Apple.

Malus coronaria, Mill. Michx. Fl. I., 292.

Open woods and thickets, western Ontario. Valley of the Humber; Queenston Heights, and woods along Lake Erie to Amherstburg, Ont. (*Macoun.*) Prince's Island, Lake Medad, Ont. (*Logie.*). Chippewa and Malden, Ont. (*Maclagan.*) Kettle Point, Lake Huron. (*Gibson.*) Vicinity of London, Ont. (*Burgess.*) Aldboro, Ont. (*McGill Coll. Herb.*)

(672.) **P. malus,** Linn. Cultivated apple.

Spontaneous in thickets, in fence corners and old fields, at Belleville and Picton, Ont. (*Macoun.*)

(673.) **P. arbutifolia,** Linn. Choke-Berry.

Mespilus arbutifolia, Linn. Spec. 478. Michx. Fl. I., 290.

Common in swamps. Bedford, N.S. (*Lawson.*) Pictou, N.S. (*McKay.*) Straits of Canso. (*Ball.*) Common throughout Quebec and Ontario.

Var. **melanocarpa,** Hook. Fl. I., 204.

Mespilus arbutifolia, var. *melanocarpa*, Michx. Fl. I., 292.
P. melanocarpa, Willd. Pursh, 339.

The common form in New Brunswick. (*Fowler's Cat.*) Rocky Lake, N.S. (*Lindsay.*) Vicinity of Montreal. (*McGill Coll. Herb.*) Common in Ontario, and extending to Sturgeon Lake, Dawson Route, west of Lake Superior. (*Macoun.*)

(674.) **P. Americana,** DC. American Mountain-Ash.

Sorbus Americana, Marsh. Pursh, 341.
P. Aucuparia, Meyer. Hook. Arct. Pl., 290, in part.

Cool, rocky woods. Newfoundland. (*Morrison.*) Pictou, and Cape Breton Island, N.S. (*McKay.*) Halifax. (*Lawson.*) Common in woods, N.B. (*Fowler's Cat.*) Abundant in Quebec and northern Ontario, and especially so around Lake Superior. On islands in Lake Winnipegoosis, Man., becoming a tree a foot in diameter. (*Macoun.*)

(675.) **P. sambucifolia,** Cham. & Schlecht.

Sorbus Aucuparia, var. *β*, Michx. Fl. I., 290.
P. Americana, Richards. in Frankl. Journ., 23.
P. Aucuparia, Meyer. Pl. Bourgeau, 256 and 263.

Winnipeg River, Man. (*Bourgeau.*) Maline Rapids, Dawson Route, west of Lake Superior; in woods north of Little Slave Lake, N.W.T., and westward through the Rocky Mountains. (*Macoun.*) Montreal Mountain. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) North end of Lake Winnipeg. (*R. Bell.*) Sitka. (*Rothr. Alask.*) South Greenland. (*Hook. Arct. Pl.*) This and the preceding species either pass into each other or they are badly characterized. (*Macoun.*)

(676.) **P. rivularis,** Dougl.

Nootka Sound and other parts of North-west America. (*Menzies.*) Observatory Inlet. (*Scouler.*) Abundant on Vancouver Island and in the Lower Valley of the Fraser. (*Macoun.*) Queen Charlotte Islands and generally on the coast of British Columbia. Up the Skeena River, B.C., to ninety miles from the sea. (*Dawson.*) Sitka. (*Rothr. Alask.*)

174. CRATÆGUS, Linn. (WHITE THORN.)

(677.) **C. oxyacantha,** Linn. English Hawthorn.

Cultivated in many parts of Ontario. Fruiting abundantly. Planted for hedges in Nova Scotia, New Brunswick and Quebec.

(678.) **C. coccinea,** Linn. Scarlet-fruited Thorn.

C. glandulosa, Willd. Hook. Fl. I., 201.

C. cordata. Hook. Fl. I., 201.

West coast of Newfoundland. (*J. Bell.*) Common in fields and thickets. Windsor, N.S. (*How.*) Pictou, N.S. (*McKay.*) Halifax, N.S. (*Sommers.*) Frequent in Quebec; common in Ontario and west to Winnipeg in coulés and stream valleys nearly to the Rocky Mountains. (*Macoun.*) Emerson, Man., and the Second Crossing of the Souris, N.W.T., Lat. 49°. (*Dawson.*)

(679. **C. tomentosa,** Linn. Black or Pear Thorn.

C. flava, Hook. Fl. I., 202.

Common in thickets, often becoming a tree of considerable size. Truro and vicinity, N.S. (*McGill Coll. Herb.*) Banks of streams, rather common, N.B. (*Fowler's Cat.*) Isle of Orleans. (*Shepherd.*) Lotbinière and Montreal. (*Brunet.*) Common throughout Ontario.

Var. **pyrifolia,** Gray, Manual, 160.

C. pyrifolia, Ait. Hook. Fl. I., 201.

Some fine specimens at Government House, Fredericton, N. B. (*Fowler's Cat.*) Montreal Mountain. (*McGill Coll. Herb.*) Chaudière Falls, near Ottawa. (*Pursh.*) Michipicoten, Lake Superior; American Portage, Dawson Route, west of Lake Superior, and at Amherstburg, on Lake Erie. (*Macoun.*)

Var. **punctata,** Gray, Manual, 2 ed., 124.

C. punctata, Jacq. Hook. Fl. I., 201.

Montreal Mountain or vicinity. (*Holmes.*) Common at Belleville and from Niagara to Amherstburg, Ont. (*Macoun.*)

(680.) **C. subvillosa,** Schrader.

C. coccinea, var. (*?*) *mollis*, Torr. & Gray, Fl. I., 465.

C. tomentosa, var. *mollis*, Gray, Manual, 160.

Vicinity of Montreal. (*Holmes.*) Abundant along the Detroit River below Amherstburg; on Michipicoten Island, Lake Superior. (*Macoun.*) North of Lake Superior. (*R. Bell.*) Aldboro, Ont. (*McGill Coll. Herb.*)

(681.) **C. Crus-galli,** Linn. Cockspur Thorn.

Abundant at Queenston Heights and westward to Amherstburg, on Lake Erie. (*Macoun.*) Niagara and Malden, Ont. (*Maclagan.*) About Lake Erie. (Douglas.)

(682.) **C. Douglasii,** Lindl.

C. punctata, var. *brevispina,* Dougl. Hook. Fl. I., 201.
C. sanguinea, var. *Douglasii,* Torr. & Gray, Fl. I., 464.
C. rivularis, Macoun's Cat., No. 593.
? *C. glandulosa,* Pursh, 337, in part.

On Vancouver Island at Victoria, and on the mainland from Lat. 49°–55°, near Mac'eod's Lake, B.C. (*Macoun.*)

(683.) **C. rivularis,** Nutt.

This species will likely be found in southern British Columbia.

175. AMELANCHIER, Medic. (JUNE-BERRY.)

(684.) **A. alnifolia,** Nutt. Western June-Berry.

Pyrus sanguinea, Pursh, 340, in part.
A. ovalis, var. *semi-integrifolia,* Hook. Fl. I., 202.
A. Canadensis, var. *alnifolia,* Torr. & Gray, Fl. I., 473.
A. Canadensis, var. *pumila,* Torr. & Gray, Fl. I., 474.

Abundant on Vancouver Island and throughout British Columbia. The form on the prairies east of the Rocky Mountains and in the Peace River region, which produces such excellent berries, doubtless belongs here. (*Macoun.*) Queen Charlotte Islands, rare. (*Dawson.*)

(685.) **A. Canadensis,** Torr. & Gray.

Pyrus Botryapium, Linn. Pursh, 339.
Mespilus Canadensis, var. *β, cordata,* Michx. Fl. I., 291.
Amelanchier Botryapium, Lindl. Hook. Fl. I., 202.
A. ovalis, Hook. Fl. I., 202, in part.

This variety takes the form of a tree and is often found thirty feet high and having a diameter of six or more inches. It always grows in woods. Newfoundland. (*Todd.*) Common at Pictou, N.S. (*McKay.*) Windsor, N.S. (*How.*) Halifax. (*Lawson.*) Very common in open woods, N.B. (*Fowler's Cat.*) Abundant in Quebec and Ontario. (*Macoun.*) Islands in Lake Huron. (*J. Bell.*) North shore of Lake Superior. (*Macoun.*)

Var. **rotundifolia,** Torr. & Gray.

Mespilus Canadensis, var. *rotundifolia,* Michx. Fl. I., 291.

Vicinity of London, Ont. (*Burgess.*) Near Amherstburgh, Ont. (*Macoun.*)

Var. (?) **oblongifolia,** Torr. & Gray.

Mespilus Canadensis, var. *obovalis*, Michx. Fl. I., 291.
Amelanchier ovalis, DC. Hook. Fl. I., 202.
Pyrus ovalis, Pursh, 340.

On rocky banks and the borders of dry fields, frequent. Windsor, N.S. (*How.*) Rather rare in New Brunswick. (*Fowler's Cat.*) Common in Quebec and Ontario, extending westward to the Rocky Mountains. (*Macoun.*) From the Saskatchewan to the Mackenzie River. (*Richardson.*) Between Lake Winnipeg and York Factory. (*R. Bell.*)

Var. (?) **oligocarpa,** Torr. & Gray.

Mespilus Canadensis, var. *oligocarpa*, Michx. Fl. I., 291.
Pyrus sanguinea, Pursh, 340, in part.
Amelanchier sanguinea, DC. Hook. Fl. I., 203.

Newfoundland. (*Morrison.*) South coast of Labrador. (*Butler.*) St. Paul's and Magdalen Islands in the Gulf of St. Lawrence. (*McKay.*) Common in swamps, New Brunswick. (*Fowler's Cat.*) Cape Rouge, Q. (*Brunet.*) Rivière du Loup, Q. (*Thomas.*) Abundant in woods, Gaspé Peninsula; Cedar Swamp, north of Norwood, Peterboro Co., Ont.; Fishing Islands, Lake Huron; and Loon Portage, Dawson Route, West of Lake Superior. (*Macoun.*) Hudson's Bay. (*W. Williams.*)

XXXIII. SAXIFRAGACEÆ. Saxifrage Family.

176. SAXIFRAGA, Linn. (SAXIFRAGE.)

(686.) **S. oppositifolia,** Linn.

S. spathulata, var. (?) *arctica*, Torr. & Gray, Fl. I., 576.

Newfoundland and Labrador. (*Morrison.*) Anticosti in the Gulf of St. Lawrence. (*Goldie.*) Rocky Mountains near the highest summits, Lat. 52°–56. (*Drummond.*) Top of Mount Selwyn, Lat. 56°, Peace River Pass; Bow River Pass, Lat. 51°. (*Macoun.*) Top of Kootanie Pass (7,000 feet), Lat. 49°. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*) Arctic seashore and islands. (*Franklin.*) Gulf of Boothia. (*Back.*) Between the Coppermine River and Point Turn Again. (*Simpson.*) Ounalashka, Cape Lisburne, Kotzebue Sound, and northern coast. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(687.) **S. Eschscholtzii,** Sternb.

Cape Newnham, north-west coast of America, Lat. 59°. (*David*

Nelson.) Behring's Straits. (*Menzies.*) Arctic seashore west of Mackenzie River. (*Franklin.*) Cape Lisburne and Kotzebue Sound. (*Rothr. Alask.*)

(688.) **S. Aizoon,** Jacq.

Labrador. (*Morrison.*) On moist rocks opposite Rothsay, N.B. (*Prof. Bailey.*) At the Narrows, St. John River, N.B. (*J. E. Wetmore.*) Cape Bon Ami, Gaspé. (*J. Bell.*) High cliffs along the Gaspé coast; on rocks at the little falls St. Anne des Monts River, Gaspé; on rocks four miles north of Michipicotin, Lake Superior. (*Macoun.*) Upper Fall of the Rivière du Loup, Q. (*Thomas.*) North shore of Lake Superior. (*Prof. Ellis*) Saskatchewan. (*Drummond.*) Greenland. (*Hook. Arct. Pl.*)

(689.) **S. serpyllifolia,** Pursh, 310.

Cape Newnham, north-west coast, Lat. 59°. (*David Nelson.*) Behring's Straits. (*Menzies.*) Cape Lisburne, Ounalashka, and Island of St. Lawrence. (*Rothr. Alask.*)

(690.) **S. cæspitosa,** Linn.

? S. androsacea, Pursh, 310. Hook. Fl. I., 244.
S. exarata, Hook. Fl. I., 244.

Forteau Bay, Labrador. (*Butler.*) Newfoundland. (*McGill Coll. Herb.*) On cliffs along the Gaspé coast between Magdalen River and Ste. Anne des Monts, 1882. Bow River Pass, Rocky Mountains. (*Macoun.*) Frequent upon the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Fort Confidence and Coppermine River. (*Simpson.*) Kotzebue Sound and Ounalashka. (*Rothr. Alask*) Greenland. (*Hook. Arct. Pl.*)

Var. **uniflora,** Hook. Fl. I., 244.

S. venosa, Haworth. Hook. Fl. I., 244.
S. cæspitosa, R. Brown. Ross. Voy. II., 192.
S. uniflora, R. Brown. Parry's 1st Voy.

Melville Island. (*Hopner.*) Arctic Islands. (*Parry.*) Smith's Sound, Greenland. (*Hook.. Arct. Pl.*)

(691.) **S. silenifiora,** Sternb.

Abundant on rocks around Victoria, Vancouver Island. (*Macoun.*) Queen Charlotte Islands. (*Dawson.*) Behring's Straits. (*Menzies.*) Kotzebue Sound and Ounalashka. (*Rothr. Alask.*)

(692.) **S. adscendens,** Linn.

S. petræa, Hook. Fl. I., 245.
S. controversa, Sternb. Pl. Bourgeau, 256. Macoun's Cat., 642.

Alpine rivulets in the Rocky Mountains. (*Drummond.*) On the

upper slopes of Mount Selwyn, Lat. 56°, Peace River Pass. (*Macoun.*) Rocky Mountains, Bow River Pass. (*Bourgeau.*) Pipe Stone Pass, 9,100 feet, and Kootanie River. (*Hector.*)

(693.) **S. rivularis,** Linn.

S. petiolaris, R. Brown, Ross' Voy., 142.
S. Cymbalaria, & var. β., Sternb. Torr. & Gray, Fl. I., 574.

Labrador. (*McGill Coll. Herb.*) Arctic seashore and islands, abundant. (*Hooker.*) Elevated places in the Rocky Mountains. (*Drummond.*) Mount Selwyn, Peace River Pass. (*Macoun.*) Cariboo Mountains, B.C (*Cowley.*) Top of Rocky Mountains, Kootanie Pass, Lat. 49°. (*Dawson.*) Little Whale River, Hudson's Bay. (*G. Barnston.*) Kotzebue Sound. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

Var. **hyperborea,** Hook. Fl. I., 246.

S. hyperborea, R. Brown. Parry's 1st Voy., 274.

Melville Island. (*Parry.*) Rocky Mountains. (*Bourgeau.*)

Var. **Laurentiana,** Engler.

S. Laurentiana, Seringe. Hook. Fl. I., 245.

Island of St. Lawrence in Behring's Straits. (*Chamisso.*)

(694.) **S. exilis,** Stephan.

† *S. Sibirica,* Torr. & Gray, Fl. I., 573, in part.

Kotzebue Sound, and Bay of Eschscholtz. (*Rothr. Alask.*)

(695.) **S. cernua,** Linn.

† *S. Sibirica,* Pursh. Hook. Fl. I., 246.

Labrador and Newfoundland. (*Pursh.*) Arctic sea shore and islands, abundant. (*Hooker.*) Common on the Rocky Mountains. (*Drummond.*) Top of Mount Selwyn, Peace River Pass, and in the Bow River Pass, Lat. 51°. (*Macoun.*) Between the Coppermine River and Point Turn Again. (*Simpson.*) Back's Great Fish River. (*Back.*) Point Barrow to Mackenzie River (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(696.) **S. ranunculifolia,** Hook. Fl. I., 246.

Kettle Falls of the Columbia River and on the Rocky Mountains. (*Douglas.*) Under overhanging rocks just outside of Yale, B. C. (*Macoun.*)

(697.) **S. Jamesii,** Torr.

Dry, rocky situations upon the more elevated of the Rocky Mountains, Lat. 52°–56°. (*Drummond.*)

(698.) **S. nivalis,** Linn.

Labrador. (*Pursh.*) Arctic seashore and Islands. (*Hooker.*) Back's Great Fish River. (*Back.*) Rocky Mountains. (*Drummond.*) Top of Rocky Mountains, Kootanie Pass. (*Dawson.*) Ounalashka, Cape Lisburne, and other stations along the coast. (*Roth. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(699.) **S. Virginiensis,** Michx. Spring Saxifrage.

S. vernalis, Willd. Hook. Fl. I., 248.

York County, N.B. (*Prof. Bailey.*) Mouth of Mactaquac River, York Co., N.B. (*Vroom.*) From Rivière du Loup westward to the Pacific Coast. This species delights in dry gravelly soil on the margins of rivers and flowers early. Often named *nivalis* by the early collectors.

(700.) **S. reflexa,** Hook. Fl. I., 249.

S. Virginiensis, Hook. Arct. Pl., as to Arctic habitat.

Shores of the Arctic Sea, between the Mackenzie and Coppermine Rivers. (*Richardson.*) Back's Great Fish River. (*Back.*)

(701.) **S. integrifolia,** Hook. Fl. I., 249.

Abundant on Vancouver Island, B.C. (*Macoun.*) Drew's Harbor, B.C., 1876. (*Dawson.*)

(702.) **S. hieracifolia,** Waldst. & Kit.

S. plantaginifolia, Hook. in Parry's 2nd Voy., 394.

Arctic Islands. (*Parry.*) Shores of the Arctic Sea, between the Mackenzie and Coppermine Rivers. (*Richardson.*) Island of St. Lawrence, and Kotzebue Sound. (*Rothr. Alask.*) East coast of Greenland. (*Hook. Arct. Pl.*)

(703.) **S. leucanthemifolia,** Michx. var. **ferruginea,** Torr. & Gray.

S. leucanthemifolia, Lodd. Hook. Fl. I., 250.

Rocks on the "Height of Land," in the Rocky Mountains, and at the Portage, near the source of the Columbia. (*Drummond.*) Dundas Island, B.C. (*Scouler.*) Behring's Straits. (*Menzies.*) Queen Charlotte Islands. (*Dawson.*)

Var. **Brunoniana,** Torr. & Gray.

S. stellaris, var. *Brunoniana,* Bong. Veg. Sitch., 140.

Queen Charlotte Islands. (*Dawson.*) Sitka and Cape Prince of Wales. (*Rothr. Alask.*) Norfolk Sound. (*Eschscholtz.*)

(704.) **S. Lyallii,** Engler.

S. Davurica, Torr. & Gray, Fl. I., 569, in part.
S. Davurica, Pl. Bourgeau, 257. Macoun's Cat., No. 637.
S. Davurica, Hook. Fl. I., 250, in part.

On the slopes of the Rocky Mountains, Kootanie Pass, Lat. 49.° (*Dawson.*) Bow River Pass, Lat. 51°. (*Bourgeau.*) Alpine rivulets in the Rocky Mountains, Lat. 52°–56°. (*Drummond.*)

(705.) **S. Davurica,** Pallas.

S. flabellifolia, R.Br. Torr. & Gray, Fl. I., 569.

Behring's Straits. (*Menzies.*) Cape Lisburne, Kotzebue Sound, and Ounalashka. (*Rothr. Alask.*)

(706.) **S. stellaris,** Linn.

Labrador. (*Morrison.*) Greenland. (*Hook. Arct. Pl.*)

Var. **comosa,** Poir.

S. foliosa, R.Br. Hook. Fl. I., 251.

Arctic Islands. (*Parry.*)

(707.) **S. punctata,** Linn.

S. spicata & arguta, Don. Hook. Fl. I., 251.
S. æstivalis, Fisch. Torr. & Gray, Fl. I., 567.

Summits of the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Slopes of the Rocky Mountains, Kootanie Pass, Lat. 49°. (*Dawson.*) Sledge Island, and Northwest coast. (*David Nelson.*) Behring's Straits. (*Menzies.*) Cape Prince of Wales, Sitka, Ounalashka, and Kotzebue Sound. (*Rothr. Alask.*)

Var. **Nelsoniana,** Engler.

S. Nelsoniana, Don. Hook. Fl. I., 251.
S. æstivalis, var. *β*. Torr. & Gray, Fl. I., 568.

Cape Newnham, on the north-west coast, Lat. 59°. (*David Nelson.*) Norton Sound. (*Rothr. Alask.*)

(708.) **S. nudicaulis,** Don.

North-west coast. (*David Nelson.*) Behring's Straits. (*Menzies.*) Between Norton and Kotzebue Sounds. (*Rothr. Alask.*)

(709.) **S. heterantha,** Hook. Fl. I., 252.

S. Mertensiana, Bong. Torr. & Gray, Fl. I., 568.
S. æstivalis, var. *δ*. Torr. & Gray, Fl. I., 568.

Common on moist rocks of the Columbia, from its source to Lat. 49°.

(*Douglas.*) Cascades on Skagit River, B.C. (*Dawson.*) Cape Disappointment. (*Scouler.*) Sitka. (*Rothr. Alask.*)

(710.) **S. Hirculus,** Linn.

S. propinqua, R. Br. Ross' Voy. 142.

From the Saskatchewan to the Arctic seashore and islands, where it is common; Behring's Straits, Cape Hope, and Kotzebue Sound. (*Hooker.*) York Factory and Churchill River, Hudson's Bay. (*R.Bell.*) Back's Great Fish River. (*Back.*)

(711.) **S. flagellaris,** Willd.

S. sctigera, Pursh, 312.

North-west coast. (*David Nelson.*) Behring's Straits. (*Menzies.*) Arctic islands, gathered by all Arctic voyagers. (*Hooker.*) Summits of the Rocky Mountains. (*Drummond.*) Baffin's Bay and Greenland. (*Hook. Arct. Pl.*)

(712.) **S. bronchialis,** Linn.

North-west coast. (*David Nelson.*) Behring's Straits. (*Menzies.*) "Height of Land," at the Portage of the Columbia River, on the west side of the Rocky Mountains. (*Drummond.*) Cascade Mountains, above Yale, B.C.; and Bow River Pass. (*Macoun.*) West Butte, Long. 49° 30′, S. Kootanie Pass, Rocky Mountains, Lat. 49°; and Skeena River, B.C. (*Dawson.*) Kotzebue Sound, Wainright Inlet, and Ounalashka. (*Rothr. Alask.*)

Var. **cherlerioides,** Engler.

S. Pseudo-Barseriana, Fisch. Torr. & Gray, Fl. I., 565.

S. nitida, Ledeb. Rothr. Alask., 446.

Ounalashka and Bay of St. Lawrence. (*Chamisso.*) Gatcho Lake, B.C. (*Dawson.*)

(713.) **S. tricuspidata,** Retz.

Coast of Labrador. (*McGill Coll. Herb.*) From Lake Winnipeg to the Arctic sea and islands, and from Hudson's Bay to the Rocky Mountains. (*Hooker.*) Fort Confidence, Lat. 67°; between the Coppermine River and Point Turn Again. (*Back.*) North end of Lake Winnipeg to York Factory. (*R. Bell.*) North shore of Lake Superior. (*Agassiz.*) Rocks at the Peace River Canyon, Lat. 56°; and on rocks at Stuart's Lake. (*Macoun.*) On Slave and Back's Great Fish River. (*Back.*) Kotzebue Sound and Ounalashka; Fort Youcon, Lat. 66°. (*Rothr. Alask.*) Greenland, (*Hook. Arct. Pl.*)

(714.) **S. aizoides,** Linn.

South-east coast of Labrador. (*Butler.*) On high cliffs along the Gaspé coast between the Magdalen River and Ste. Anne des Monts. (*Macoun.*) Indian Cove, Gaspé; west coast of Newfoundland. (*J. Bell.*) Barren country from Lat. 64° to the Arctic Sea and Islands, frequent. (*Richardson.*) Swamps and alpine rivulets of the Rocky Mountains. (*Drummond*) Boggy slope Mount Selwyn, Peace River Pass; and in the Bow River Pass, Lat. 51°. (*Macoun.*) Little Whale River, Hudson's Bay. (*Barnston.*) East coast of Hudson's Bay. (*R. Bell.*) Greenland. (*Hook. Arct. Pl.*)

177. BOYKINIA, Nutt.

(715.) **B. occidentalis,** Torr. & Gray.

Saxifraga elata, Nutt. Torr. & Gray, Fl. I., 575.

To be looked for along the southern boundary of British Columbia.

(716.) **B. Richardsoni,** Gray.

Saxifraga Richardsonii, Hook. Fl. I., 247.

Arctic seashore between the Mackenzie and Coppermine Rivers. (*Richardson.*) West of Mackenzie River. (*Simpson.*) Kotzebue Sound. (*Rothr. Alask.*)

178. TOLMIEA, Torr. & Gray.

(717.) **T. Menziesii,** Torr. & Gray.

Tiarella Menziesii, Pursh. Hook. Fl. I., 238.
Heuchera Menziesii, Hook. Fl. I., 237.

North-west coast of America; at Bank's Island. (*Menzies.*) Woods near the southern boundary of B.C. (*Cowley.*)

179. TELLIMA, R. Brown.

(718.) **T. grandiflora,** R. Br.

Mitella grandiflora, Pursh, 314.

North-west coast of America. (*Menzies.*) Damp woods, Vancouver Island. (*Macoun.*) Cascade Mountains, east of Fort Hope, B.C. Misinchinca River, Rocky Mountains, Lat. 55°. (*Dawson.*) Sitka and the islands adjacent to the coast. (*Rothr. Alask.*)

(719.) **T. parviflora,** Hook. Fl. I., 239.

Lithophragma parviflora, Nutt. Torr. & Gray, Fl. I., 584.

Very abundant on Vancouver Island in the vicinity of Victoria. (*Macoun.*) On the Lower Fraser and near Yale, B.C. (*Hill.*)

180. TIARELLA, Linn. (FALSE MITRE WORT.)

(720.) **T. cordifolia,** Linn.

Rich shady woods and ravines. Rare in woods, Pictou, N.S. (*McKay.*) Truro, N.S. (*Lindsay.*) Rare in the northern counties, common about Fredericton, N.B. (*Fowler's Cat.*) Common in rich woods throughout Ontario and Quebec.

(721.) **T. unifoliata,** Hook. Fl. I., 238.

Heuchera longipetala, Moç. Hook. Fl. I., 237.

North-west coast of America. (*De Candolle.*) Height of Land in the Rocky Mountains, near the source of the Columbia, and at Portage River. (*Drummond.*) Vancouver Island, around Victoria. In woods north of Fort St. James, Stuart Lake, B.C. (*Macoun.*) Telegraph Trail near the Blackwater River; and at McLeod's Lake, B.C.; S. Kootanie Pass, Rocky Mountains, Lat. 49°. (*Dawson.*)

(722.) **T. trifoliata,** Linn.

T. laciniata, Hook. Fl. I., 239.

North-west coast of America. (*Menzies.*) Common on the coast, and in the Rocky Mountains on the west side of the ridge. (*Douglas.*) Height of Land, near a large glacier, upon the Rocky Mountains. (*Drummond.*) Queen Charlotte Islands; and Cascade Mountains, above Mount Hope. (*Dawson.*) Vancouver Island, near Victoria. (*Macoun.*) Sitka and Alaskan coast. (*Rothr. Alask.*)

181. MITELLA, Tourn. (MITRE WORT.)

(723.) **M. diphylla,** Linn.

Rich woods and banks. Rivière du Loup, Q. (*Thomas.*) Vicinity of Quebec, and cemetery of St. Charles. (*Brunet.*) Abundant about Montreal. (*McGill Coll. Herb.*) Very common in Ontario, especially in the lake and river counties.

(724.) **M. nuda,** Linn.

M. reniformis, Lam. Pursh, 314.
M. cordifolia, Lam. Pursh, 314.

Very common in cool, damp woods or swamps, from Labrador, Newfoundland and Nova Scotia to the Pacific and northward to the Arctic Sea. One of our most widely distributed species.

Var. β. Torr. & Gray, Fl. I., 586.

M. prostrata, Michx. Fl. I., 270.

This form is easily known by the long runners producing terminal racemes.

(725.) **M. pentandra,** Hook.

Frequent in mountain woods, from Lat. 49° northward. Moist alpine woods in the Rocky Mountains. (*Drummond.*) Eastern base of the Cascade Mountains on Skagit River, B.C. On the slopes of the Rocky Mountains, Kootanie Pass, Lat. 49°. (*Dawson.*) In woods near McLeod's Lake, B.C. (*Macoun.*)

(726.) **M. trifida,** Graham.

Alpine rivulets, north of Smoky River, on the east side of the Rocky Mountains, in Lat. 56°, rare. (*Drummond.*) On the slopes of the mountains, near their summits, at Spence's Bridge, B.C. (*Macoun.*)

(727.) **M. caulescens,** Nutt.

Occurs on the southern boundary of British Columbia.

182. HEUCHERA, Linn. (ALUM-ROOT.)

(728.) **H. micrantha,** Dougl.

North-west coast of America. (*Scouler.*) Common around Victoria, Vancouver Island. (*Macoun.*) East of Hope Mountain, Cascade Range; Coast Range, near Bute Inlet; Queen Charlotte Islands. (*Dawson.*)

(729.) **H. glabra,** Willd.

North-west coast of America, also Nootka. (*Hooker.*) Rocky Mountains, at Providence and Portage Rivers, in Lat. 54°. (*Drummond.*) On the Misinchinca River, near the Pine Pass, Lat. 55°. (*Dawson.*) Sitka. (*Rothr. Alask.*)

(730.) **H. cylindrica,** Dougl.

H. ovalifolia, Nutt. Torr. & Gray, Fl. I., 581.
H. glabella, Torr. & Gray, Fl. I., 581.

On the declivities of low hills, and on the steep banks of streams, on the west side of the Rocky Mountains. (*Douglas.*) On the dry slopes along the Fraser and Thompson Rivers from Yale to Spence's Bridge. (*Macoun.*)

(731.) **H. Hallii,** Gray. (?)

Slopes of the Rocky Mountains in the Kootanie Pass, Lat. 49°. (*Dawson.*) Bow River Pass, 51°, 1879. (*Macoun.*) I refer the specimens obtained to this species, but they accord best with *H. glabella*, Nutt., which, however, Watson makes a synonym of *H. cylindrica*. The spike is long and the flowers are in sub-verticillate, conglomerate heads. It is certainly distinct from *H. cylindrica*.

(732.) **H. parvifolia,** Nutt.

On dry gravel ridges west of Fort Walsh, on the top of the Cypress Hills, N.W.T. (*Macoun.*)

(733.) **H. hispida,** Pursh.

H. Richardsonii, R. Br. Hook. Fl. I., 237.

Dry banks of rivers, Lat. 54°–64°. (*Richardson.*) From the Saskatchewan west to the Rocky Mountains. (*Drummond.*) Western end of Lake Shebandowan, Dawson Route, 1872; from Manitoba to the Rocky Mountains, throughout the prairie and Peace River regions. (*Macoun.*) Abundant from the Lake of the Woods, westward. (*Dawson.*) Echimamish River to Oxford House, near Hudson's Bay, and along the Nelson River to Hudson's Bay. (*R. Bell.*)

(734.) **H. Americana,** Linn.

H. cortusa, Michx. Fl. I., 171.
H. viscida, Pursh, 187.

Woods near Amherstburg, Lake Erie, 1882. (*Macoun.*) Malden, Ont. (*Maclagan.*)

183. CHRYSOSPLENIUM, Tr't. (GOLDEN SAXIFRAGE.)

(735.) **C. Americanum,** Schweinitz.

C. oppositifolium, Walter. Pursh, 269.

Ditches and spring brooks, Pictou, N.S. (*McKay.*) Common about

springs in low wet places, N.B. (*Fowler's Cat.*) Common throughout Quebec and Ontario. (*Macoun.*) Saskatchewan. (*Richardson.*)

(736.) **C. alternifolium,** Linn.

In the woody, and principally in the barren country of British America. (*Richardson.*) On the Arctic islands. (*Parry.*) On the Rocky Mountains. (*Drummond.*) Vicinity of Quesnel, and up the Telegraph Trail to Fort St. James, Stuart Lake, B.C. (*Macoun.*) Ilgacho Brook, northern B.C. (*Dawson.*) Kotzebue Sound to Cape Lisburne. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

184. PARNASSIA, Tourn. (GRASS OF PARNASSUS.)

(737.) **P. palustris,** Linn.

Throughout Canada, as far north as the Arctic Circle, and in swamps in the Rocky Mountains, Lat. 52°–56°; Labrador and Newfoundland; and Cape Newnham, on the west coast, Lat. 59°. (*Hooker.*) Metapedia River, Q., near its mouth. (*Macoun.*) Island of Anticosti. (*Brunet.*) On damp soil, Little Metis, Q. (*Harrington.*) Under the bank at Fort Francis, Rainy River, and westward to the Pacific. (*Macoun.*) Pine River Pass, in the Rocky Mountains, and frequent in British Columbia. (*Dawson.*) From Oxford House to York Factory, and on the Churchill River. (*R. Bell.*)

(738.) **P. parviflora,** DC.

Labrador. (*Butler.*) Romantic Islet, north-east, Magdalen Islands, Gulf of St. Lawrence. (*McKay.*) Grand Métis, Q. (*Burgess.*) Borders of the Rivers Ste. Anne, Jacques Cartier, Q. (*Brunet.*) Very abundant along the Gaspé coast from Cape Rosier to Ste. Anne des Monts; also up the Ste. Anne River, Q.; north shore of Lake Superior, near Pic River. Red Bay, Lake Huron; Fort Edmonton on the Saskatchewan, and on rocks, Peace River, Canyon, Lat. 56°. (*Macoun.*) Sandy banks, formed by the floods in the rivers among Rocky Mountains, Lat. 52°-56°. (*Drummond.*)

(739.) **P. Caroliniana,** Michx.

P. palustris, Pursh, 208.

Crevices of rocks and on floating logs in rivers. Flat lands, Restigouche, N.B. (*Chalmers.*) Andover, Victoria, N.B. (*J. E. Wetmore.*) Vicinity of Quebec; Isle of Orleans. (*Brunet.*) Crevices of rocks, Niagara Falls; Presqu' Ile Point, Lake Ontario; and Pott's Mill Dam, Brighton, Ont.; Red Bay, Lake Huron. (*Macoun.*) Banks of the

rocky Saugeen, Durham Township; also near Ancaster, Ont. (*Logie.*) Vicinity of London, Ont.; and Lake of the Woods. (*Burgess.*) Two miles south of London. (*Saunders.*) Near Sandwich, Ont. *Maclagan.*) McLeod's Harbor, Cockburn Island, Lake Huron. (*J. Bell.*)

(740.) **P. Kotzebuei,** Cham. & Schlecht.

Coast of Labrador. (*McGill Coll. Herb.*) On the top of Mount Albert, Shickshock Mountains, Gaspé. (*Macoun.*) Rocky Mountains, Lat. 51°. (*Bourgeau.*) Rocky Mountains, Lat. 52°-56°. (*Drummond.*) Bear Lake and thence to the Arctic Sea. (*Richardson.*) Port Clarence to Cape Lisburne. (*Rothr. Alask.*) South Greenland. (*Hook. Arct. Pl.*)

(741.) **P. fimbriata,** Kœnig.

North-west coast of America. (*Menzies.*) Elevated swamps in the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Slope of the Rocky Mountains, Kootanie Pass, Lat. 49. (*Dawson.*) Rocky Mountains, Lat. 51°. (*Bourgeau.*)

185. LEPTARRHENA, R. Br.

(742.) **L. pyrolifolia,** R. Br.

"Height of Land," on the west side of the Rocky Mountains, in Lat. 52°. (*Drummond.*) Cariboo Mountains, B.C. (*Cowley.*) Tsi-tsult Mountains, B.C.; Rocky Mountains, in the S. Kootanie Pass, Lat. 49°. (*Dawson.*) Behring's Straits. (*Menzies.*) Ounalashka, and Cape Prince of Wales. (*Rothr. Alask.*)

186. PHILADELPHUS, Linn. (MOCK ORANGE.)

(743.) **P. Lewisii,** Pursh.

Common in open pine woods on the north-west coast. (*Douglas.*) Princeton, B.C. (*Dawson.*) In the valley of the Lower Fraser, B.C. (*Cowley.*)

(744.) **P. Gordonianus,** Lindl.

On the southern boundary of British Columbia.

187. RIBES, Linn. (CURRANT. GOOSEBERRY.)

(745.) **R. Lobbii,** Gray. Macoun's Cat., No. 614.

On the roadside leading to Cedar Hill, Victoria, Vancouver Island. (*Macoun.*) Near Victoria. (*Hill.*)

(746.) **R. divaricatum,** Dougl.

R. triflorum, Hook. & Arn. Bot. Beechey's Voy.
R. villosum, Nutt. Torr. & Gray, Fl. I., 547.

A common bush on the banks of streams, near Indian villages, on the north-west coast, Lat. 49°–52°. (*Douglas.*) Thickets, Vancouver Island, near Victoria; also in the valley of the Lower Fraser. (*Macoun.*)

Var. **irriguum,** Gray.

R. irriguum, Dougl. Hook. Fl. I., 231.

Moist mountain rocks on the upper part of the Columbia River. (*Douglas.*) In woods along the British Columbia boundary, Lat. 49°. (*Watson.*) In the Cascade Mountains, above Yale, B.C. ? (*Macoun.*)

(747.) **R. oxyacanthoides,** Linn.

R. hirtellum, Michx. Hook. Fl. I., 231. Macoun's Cat., No. 605.
R. saxosum, Hook. Fl. I., 231.

A very common species, being found from Newfoundland and Nova Scotia to the Pacific. It prefers swamps in Ontario, but lake and river margins in the interior. I suspect that Gray unites two species under this name, as the form found in the prairie region is very unlike the eastern one.

(748.) **R. rotundifolium,** Michx.

R. triflorum, Willd. Hook. Fl. I., 230.
R. gracile, Pursh, 165.

Pictou, N. S. (*McKay.*) River Avon, Windsor, N. S. (*How.*) Halifax, N. S. (*Lawson.*) Cape Rouge River, Q. (*Brunet.*) Not very common at Rivière du Loup. (*Thomas.*) Nonpareil, Q. (*Maclagan.*) Common at Prescott, Ont. [?] (*Billings.*) Vicinity of Hamilton, Ont. [?] (*Buchan.*) Several of the above references may apply to *R. oxyacanthoides,* the two references to Ontario being particularly doubtful.

(749.) **R. Cynosbati,** Linn.

R. oxyacanthoides, var. *γ.*, Torr. & Gray, Fl. I., 546.
R. oxyacanthoides, Pl. Bourgeau, 256.

Black River, St. John, N.B. (*Rev. J. P. Sheraton.*) Very common from Rivière du Loup, Q., to the Sault Ste. Marie, Ont. (*Macoun.*) Pembina Mountain, Man. (*Dawson.*)

(750.) **R. lacustre,** Poir.

R. oxyacanthoides, Michx. Fl. I., 111.

Throughout Canada to Fort Franklin and Bear Lake, near the Arctic

circle. (*Richardson.*) It is abundant from Newfoundland, Labrador, and Nova Scotia, in swamps and wet woods, westward to the Rocky Mountains. Very common in British Columbia, but may belong principally to the variety. Point Barrow to Mackenzie River. (*Rothr. Alask.*)

Var. **parvulum,** Gray, Bot. Cal. I., 206.

Common in the valley of the Fraser and southern British Columbia. (*Macoun & Dawson.*)

Var. **mollie,** Gray, Bot. Cal. I., 206.

On the Fraser, above Boston Bar, and doubtless common. (*Macoun.*)

Var. ——— **?**

A form unlike all the others was collected in the valley of the Fraser in the summer of 1882, by A. J. Hill. Besides other points of distinction, its racemes are over twenty flowered. All the above forms need careful examination by collectors while the specimens are fresh.

(751.) **R. setosum,** Lindl.

R. oxyacanthoides, Hook. Fl. I., 230.
R. oxyacanthoides, var. *β.* Torr. & Gray, Fl. I., 546.

Banks of the Saskatchewan. (*Douglas.*) This is evidently the form of *R. oxyacanthoides,* which is so common in some parts of the prairie region, and in the sand on the borders of saline lakes. It may be a good species and seems to be very properly named. (*Macoun.*)

(752.) **R. rubrum,** Linn. Red Currant.

R. albinervium, Michx. Fl. I., 110.

Common in cold woods and swamps, from the Atlantic to the Pacific, and north to the Arctic Sea. Port Clarence and Kotzebue Sound; also Youcon River. (*Rothr. Alask.*)

(753.) **R. prostratum,** L'Her. Fetid Currant.

R. glandulosum, Ait. Richards. in Frankl. Journ., 6.
R. rigens, Michx. Fl. I., 110.
R. trifidum, Michx. Hook. Fl. I., 232.
R. laxiflorum, Richards. in Frankl. Journ., 7.
? R. alpinum, Hook. Arct. Pl., 291, as to Labrador.
R. Hudsonianum, Pl. Bourgeau, 256.

Newfoundland, Labrador, Nova Scotia, northward through the Laurentian region to Hudson's Bay, and westward to the Rocky Mountains and Peace River country.

(754.) **R. laxiflorum,** Pursh.

R. palustre, var. β. Hook. Fl. I., 232.

North-west coast of America. (*Menzies.*) British Columbia from the coast north to Quesnel on the Fraser. (*Macoun & Dawson.*) Vicinity of Yale. (*Hill.*) Cape St. Elias and Sitka. (*Rothr. Alask.*)

(755.) **R. bracteosum,** Dougl.

Common on Vancouver Island around Victoria, and possibly in the valley of the Lower Fraser. (*Macoun.*) Sitka. (*Rothr. Alask.*)

(756.) **R. Hudsonianum,** Richards.

R. nigrum, Richards. in Frankl. Journ., 1st ed., 6.

From Hudson's Bay to the Rocky Mountains in the west, and as far north as Lat. 57°. (*Drummond.*) Lake Winnipegoosis, Red Deer Lake and Porcupine Mountains, Man.; Cypress Hills, at Fort Walsh; Red Deer River, near Hand Hills, Long. 112°, N.W.T. Damp woods, northern British Columbia. (*Macoun.*) Blackwater River, B.C. (*Dawson.*) Oxford House to Knee Lake, and around Cross Lake on Nelson River. (*R. Bell.*)

Var. β. Hook. Fl. I., 233.

R. petiolare, Dougl.

Mountains of the Columbia, above the Kettle Falls. (*Douglas.*)

(757.) **R. floridum,** L'Her. Black Currant.

R. recurvatum, Michx. Fl. I., 109.

Throughout Canada to Lat. 54°. (*Hooker.*) Near Brooklin, N.S. (*How.*) Common throughout New Brunswick, Quebec and Ontario, and westward to the Porcupine Mountains west of Manitoba. (*Macoun.*) Lake of the Woods; Emerson and First Crossing of Souris River, Man. (*Dawson.*)

(758.) **R. cereum,** Dougl.

Abundant along the Fraser, above Boston Bar, B.C. (*Macoun & Hill.*) Near Fort Hope on the Fraser, B.C. (*Dawson.*)

(759.) **R. viscosissimum,** Pursh.

Common in the recesses of the Rocky Mountains, and on dry plains, south of Lat. 49°. (*Douglas.*) Cascade Mountains on Skagit River, B.C. (*Dawson.*)

(760.) **R. sanguineum,** Pursh.

Abundant on the west coast, Lat. 49°–52°, usually growing in rocky

situations by the sides of streams. (*Menzies.*) Very common on Vancouver Island and in the valley of the Lower Fraser. (*Macoun, Hill & Dawson.*)

(761.) **R. aureum,** Pursh.

On the west fork of Milk River, south of Cypress Hills. (*Dawson.*)

XXXIV. CRASSULACEÆ. ORPINE FAMILY.

183. PENTHORUM, Gronov. (DITCH STONE-CROP.)

(762.) **P. sedoides,** Linn.

In ditches and boggy spots. Norton and mouth of James River, N.B. (*Hay.*) Fredericton, N.B. (*Fowler's Cat.*) Common in Ontario and western Quebec, but less frequent eastward.

189. SEDUM, Tourn. (STONE-CROP. ORPINE.)

(763.) **S. acre,** Linn. "Mountain Moss."

Cultivated as a bordering for flower-beds, but escaped in a number of places to moist, rocky hillsides where it grows in great profusion, as at Picton Harbor, Bay of Quinte, and at Niagara Falls. (*Macoun.*) Rocks west of the toll gate, Prescott, and abundant upon rocks a mile west of Brockville, near the river. (*Billings.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Vicinity of London. (*Burgess.*) Hampton, N.B. (*J. Brittain.*) Norton, N.B. (*Hay.*) Bedford and Dutchville, N.S. (*Lawson & Sommers.*)

(764.) **S. stenopetalum,** Pursh.

On rocky, mountain slopes. Frequent on the east side of the Rocky Mountains. (*Drummond.*) On the Cypress Hills; in the Bow River Pass; and frequent on rocky slopes in the Peace River Pass and British Columbia. (*Macoun.*) Kootanie Pass, Lat. 49°; Pine River Pass, Lat. 55°, and along the wagon road at Lytton, B.C. (*Dawson.*)

(765.) **S. spathulifolium,** Hook.

Abundant on rocks around Victoria, Vancouver Island. (*Macoun & Hill.*) On Dean or Salmon River, B.C.; Queen Charlotte Islands. (*Dawson.*)

(766.) **S. obtusatum,** Gray. (?).

A species, which may be the above, has been collected in the Lower

Valley of the Fraser, B.C., by A. J. Hill, C.E., but until fresh specimens are obtained the reference is doubtful.

(767.) **S. ternatum,** Michx.

Rocks on the Niagara River and Lake Erie. (*Douglas.*) Vicinity of Hamilton, Ont. (*Buchan.*) This is a doubtful species and should be looked for.

(768.) **S. Telephium,** Linn. Live-for-Ever.

Escaped from cultivation in nearly all the old settlements throughout Canada. It establishes itself by roadsides and around garden fences, and soon becomes a troublesome weed.

(769.) **S. Rhodiola,** DC.

Arctic seashore and islands. (*Richardson.*) Newfoundland and Labrador. (*Morrison.*) St. Paul's Island, Gulf of St. Lawrence. (*McKay.*) Cape Breton, N.S. (*Lawson.*) On exposed cliffs, St. John Co., N.B. (*Fowler's Cat.*) Il-ga-chug Mountains, B.C.; Queen Charlotte Islands. (*Dawson.*) Norton and Kotzebue Sounds. (*Rothr. Alask.*) Seacoast west of Mackenzie River. (*Back.*) Greenland. (*Hook. Arct. Pl.*)

(770.) **S. rhodanthum,** Gray.

Bow River Pass on Mountain slopes, Lat. 49°. (*Dawson.*) Rocky Mountains. (*Bourgeau.*) The above references may apply to the preceding species, as I am responsible for the change without having seen the specimens.

The whole genus needs to be carefully studied from living specimens, as the western forms are numerous, and either quite variable or we have undescribed species.

XXXV. DROSERACEÆ. Sundew Family.

190. DROSERA, Linn. (SUNDEW.)

(771.) **D. rotundifolia,** Linn. Round-leaved Sundew.

A common inhabitant of peat bogs and marshes, from Newfoundland, Labrador and Nova Scotia westward to the Pacific and north to, and beyond, the Arctic Circle.

(772.) **D. Anglica,** Hudson.

In boggy ground along the shores of Lake Huron, Bruce peninsula.

(*Macoun.*) Near Cumberland House, Lat. 54°. (*Richardson.*) Northwest coast of British Columbia. (*Menzies.*) Newfoundland. (*Watson.*)

(773.) **D. intermedia,** Drev. & Hayne, var. **Americana,** D.C.

D. longifolia, Michx. Macoun's Cat., No. 221.

Bogs and borders of lakes, N.B., common. (*Fowler's Cat.*) Frequent in bogs and on the margins of lakes throughout Quebec and northern Ontario, and northwest to the Porcupine Mountains, Man., Lat. 53°.

(774.) **D. linearis,** Goldie.

Marshes at Lake Simcoe. (*Goldie.*) Chicken Bay and at Oliphant, Bruce peninsula, Ont. (*Macoun.*) McLeod's Harbor and Cockburn Island, Lake Huron. (*J. Bell.*) Rosseau River, eastern Manitoba. (*Burgess.*) Lake Superior. (*Provancher.*) In a swamp near Jasper's Lake, Rocky Mountains. (*Drummond.*)

XXXVI. HAMAMELACEÆ. Witch Hazel Family.

191. HAMAMELIS, Linn. (WITCH HAZEL.)

(775.) **H. Virginiana,** Linn.

In thickets and open woods; rather local. Common at Pictou, N.S. (*McKay.*) Halifax. (*Lawson.*) Damp rich woods, N.B., rather rare. (*Fowler's Cat.*) Point Levis and Isle of Orleans, Q. (*Brunet.*) Common near Prescott, Ont. (*Billings.*) Scarce in Hastings and Northumberland Cos., Ont. (*Macoun.*) Abundant from Toronto westward in Ontario. (*Ellis, Buchan & Burgess.*)

XXXVII. HALORAGEÆ. Water Mill-foil Family.

192. MYRIOPHYLLUM, Vaill. (WATER MILLFOIL.)

(776.) **M. spicatum,** Linn.

Abundant in stagnant pools and weedy lakes. West coast of Newfoundland. (*J. Bell.*) In deep water. Kouchibouguac, and Kennebeccasis Rivers, N.B. (*Fowler's Cat.*) Small lakes along the Gaspé coast; abundant in the northern counties of Ontario; and in all large fresh water ponds and brackish lakelets in the prairie region. (*Macoun.*) Lake Temiscouata, and near Montreal, Q. (*Maclagan.*) St. Lawrence

River near Prescott. (*Billings.*) Common in western Ontario. (*Burgess & Buchan.*) North to Bear Lake. (*Richardson.*) North-east from Mackenzie River. (*Hook. Arct. Pl.*)

(777.) **M. verticillatum,** Linn.

In marshes south side of the Bay of Quinte at Belleville, still water and in the "drowned" lands along the Trent, between Hastings and Heely's Falls, Ont.; marshes around the base of the Porcupine Mountains, Man., Lat. 52°. (*Macoun.*) Marshes, Burlington Bay, Hamilton, Ont. (*Logie.*)

(778.) **M. heterophyllum,** Michx.

Lakes and rivers, apparently rare. River Trent, near Heely's Falls, Northumberland Co., Ont. North River above Round Lake, Peterboro Co., Ont. At the mouth of the Sydenham River, Owen Sound, abundant; also in a marsh on the lake shore at Port Stanley, Ont. (*Macoun.*) Niagara Falls. (*Maclagan.*) Vicinity of Hamilton, Ont. (*Logie.*) Parry Sound, Georgian Bay. (*Burgess.*)

(779.) **M. tenellum,** Bigel.

In watery places, Newfoundland. (*De Candolle.*) Rare at Richibucto, N.B. (*Fowler's Cat.*) Saguenay River, Q. (*A. T. Drummond.*) Abundant at the mouth of Buck's River, Stanhope, Victoria Co., Ont. (*Macoun.*) Lake Joseph, Muskoka, Ont. (*Burgess.*)

193. PROSERPINACA, Linn. (MERMAID WEED.)

(780.) **P. palustris,** Linn.

Wet swamps, rather rare. Vicinity of Montreal. (*Maclagan.*) Banks of the Nation River, eastern Ontario. (*Billings.*) Marshes along Lakes Isaac and Sky, Bruce Peninsula, also Fishing Islands, Lake Huron. (*Macoun.*)

194. HIPPURIS, Linn. (MARE'S TAIL.)

(781.) **H. vulgaris,** Linn.

Pools of water and margins of lakes from Newfoundland, Labrador and Nova Scotia to the Pacific and north to Alaska and the Arctic Sea. This species is widely distributed, and may on the coasts, both east and west, pass into the next.

(782.) **H. maritima,** Hellenius.

Mouth of Haye's River, near York Factory, Lat. 57°. (*Richardson.*)

Labrador. (*Morrison.*) In salt marshes along the Gaspé coast, at Cape Rosier, Grand Vallée, and below St. Anne des Monts. (*Macoun.*) Straits of Schismareff, and Bay of Eschscholtz. (*Chamisso.*) Kotzebue Sound and delta of the Buckland River. (*Rothr. Alask.*)

(783.) **H. montana,** Ledeb.

Turfy places. Ounalashka. (*Rothr. Alask.*)

XXXVIII. ONAGRACEÆ. Evening Primrose Family.

195. LUDWIGIA, Linn. (FALSE LOOSESTRIFE.)

(784.) **L. palustris,** Ell.

Isnardia palustris, Linn. Hook. Fl. I., 215.
I. nitida, Michx. Fl. I., 87.

Ditches and springs. Pictou, N.S. (*McKay.*) Wilmot, Annapolis, N.S. (*How.*) Nashwaaksis River, N.B. (*J. Moser.*) Saint Stephen, N.B. (*Vroom.*) Petitcodiac, Nauwigewauk, and Taborville, N.B. (*J. Brittain.*) Nicolet, Quebec. (*Maclagan.*) Bank of the river St. Pierre, near Montreal, Q., 1821. (*Holmes.*) Very common in ditches and dried up ponds throughout Ontario. (*Macoun.*) Saskatchewan River. (*Richardson.*)

(785.) **L. alternifolia,** Linn.

L. macrocarpa, Michx. Fl. I., 89.
Rhexia linearifolia, Poir. Pursh, 259.
Isnardia alternifolia, DC. Hook. Fl. I., 214.

In swamps, Canada. (*Torr. & Gray, Fl. I.,* 522, also, *Hooker, Fl. I.,* 214.) This is a doubtful species and should be looked for along Lake Erie.

196. EPILOBIUM, Linn. (WILLOW HERB.)

(786.) **E. angustifolium,** Linn. "Fire Weed."

In woods and fields, from Newfoundland, Labrador and Nova Scotia, west to the Pacific and North to the mouth of the Mackenzie, Lat. 69°, west to Alaska and east to Greenland. A fine tall and beautiful species.

Var. **canescens,** Wood.

This is a white flowered and silvery podded variety, which has been

collected at Marmora Village, Hastings Co., Ont., and Owen Sound. (*Macoun.*) Cariboo Mountains, B.C. (*Cowley.*)

(787. **E. latifolium,** Linn.

Coast of Newfoundland. (*McGill Coll. Herb.*) Amour Bay, south coast of Labrador. (*Butler.*) On gravel deposits, on the Dartmouth, Magdalen and Ste. Anne des Monts Rivers, Gaspé; Bow River Pass, Rocky Mountains; and at the Rocky Mountain Cañon on Peace River, Lat. 56°. (*Macoun.*) Banks of rivers in the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Kootanie Pass, Lat. 49°; Misinchinca River Pine Pass, Lat. 55°, and on the Coast Range near Bute Inlet, B.C. (*Dawson.*) Shores and islands of the Arctic Sea in every degree of longitude. (*Hooker.*) Behring's Straits. (*Chamisso.*) Norton Sound to Point Barrow, Sitka and Ounalashka. (*Rothr. Alask.*) On the Churchill River, near Hudson's Bay. (*R. Bell.*) Greenland. (*Hook. Arct. Pl.*)

(788.) **E. luteum,** Pursh.

Grassy places in the valleys of Ounalashka. (*Chamisso.*) Sitka and Ounalashka. (*Rothr. Alask.*)

(789.) **E. alpinum,** Linn.

South coast of Labrador. (*Brunet.*) Alpine rivulets in the Rocky Mountains. (*Drummond.*) Observatory Inlet, North-west America, Lat. 56°. (*Menzies.*) Sitka. (*Rothr. Alask.*)

Var. **nutans,** Lehm. Hook. Fl. I., 205.

Observatory Inlet, North-west America. (*Menzies.*) On the trail a few miles east of McLeod's Lake, B.C., Lat. 55°. (*Macoun.*)

(790.) **E. origanifolium,** Lam.

E. alpinum, var. *majus,* Wahl. Gray, Manual, 177.

Knowlton, Eastern Townships, Q. (*McGill Coll. Herb.*) Coast of Gaspé above Mont Louis; Mount Albert, Shichshock Mountains, Gaspé. (*Macoun.*) Bow River Pass, Rocky Mountains, Lat. 51°; Mountains near Little Slave Lake, Lat. 55°. On the trail between Stuart's River and the Nechacco, B.C. (*Macoun.*) Top of the Rocky Mountains, Kootanie Pass. (*Dawson.*) Alpine woods, sides of rivulets, and shady elevated spots on the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Ounalashka. (*Chamisso.*) Greenland. (*Hook. Arct. Pl.*)

(791.) **E. tetragonum,** Linn.

Harbor Grace, Newfoundland. (*McGill Coll. Herb.*) From Lake Winnipeg across the plains to the valleys of the Rocky Mountains, and

north to Lat. 64°; frequent. (*Richardson & Drummond.*) North-west coast near the sea. (*Scouler.*) Vicinity of Quebec and Tadousac. (*Brunet.*) Common on the prairies, west of Manitoba; also in Northern British Columbia and the upper valley of the Fraser. (*Macoun.*) Queen Charlotte Islands and the mountains along the coast of British Columbia. (*Dawson.*) York Factory and Nelson River Valley. (*R. Bell.*)

(792.) **E. coloratum,** Muhl.

E. tetragonum, Pursh, 259.

Common in Nova Scotia, New Brunswick, Quebec and Ontario. This seems to be the eastern form of the preceding species, and a careful examination of living specimens is necessary to separate them. Red Deer River, near the Hand Hills, N.W.T., Long. 112°. (*Macoun.*) Slopes of the Rocky Mountains, Kootanie Pass. (*Dawson.*) Plains of the Saskatchewan. (*Richardson.*)

(793.) **E. minutum,** Lindl. Hook. Fl. I., 207.

North-west coast of America. (*Menzies.*) On moist rocks near springs, on the high mountains of the Upper Columbia River. (*Douglas.*) Lake Athabasca, near Fort Chipeywan, Lat. 59°. (*Macoun.*)

(794.) **E. palustre,** Linn.

Labrador. (*Morrison.*) Mount Albert, Shickshock Mountains, Gaspé, Q.; Moose Jaw Creek and Old Wives Lakes, and numerous other localities throughout the prairie region, N.W.T. (*Macoun.*) Sitka. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

Var. **lineare,** Gray.

E. oliganthum, Michx. Hook. Fl. I., 208.
E. rosmarinifolium, Pursh, 259.
E. tenellum, Raf. Hook. Fl. I., 207.
E. palustre, var. *albescens*, Richards. in Frankl. Journ., 12.
E. palustre, var. *albiflorum*, Hook. Fl. I., 207.
E. palustre, Gray, Manual, 1st ed., 135.

Abundant in peat bogs and marshy places, from Labrador and Nova Scotia to British Columbia, and north to Lat. 64° on the Mackenzie River.

(795.) **E. paniculatum,** Nutt.

Abundant on newly cleared land at Oxendon, Colpoy's Bay, Georgian Bay, Lake Huron; common on dry sand hills near the source of the Qu'Appelle, and on the southwestern plain, N.W.T. (*Macoun.*) Vancouver Island, near Victoria. (*Dawson.*)

(796.) **E. molle,** Torrey. Macoun's Cat., No. 693.

Grenville, Durham, and Cowansville, Eastern Townships, Q. (*McGill Coll. Herb.*) In a tamarac swamp north of Belleville, Ont. also in boggy ground, Lake Athabasca. (*Macoun.*)

(797.) **E. affine,** Bongard.

Sitka. (*Rothr. Alask.*)

(798.) **E. roseum,** Schreb.

Sitka. (*Rothr. Alask.*)

(799.) **E. pubescens,** Roth. (?) Macoun's Cat., 692.

A species bearing this name was reported from Nootka many years ago, but the name has been allowed to drop as authentic specimens are unknown. In the spring of 1875 I collected a number of immature specimens of a remarkable form, wholly unlike any other species I have ever seen, on Cedar Hill, near Victoria, on Vancouver Island. The specimens obtained were very pubescent, and were possibly of this species. Mature specimens are much desired.

197. ŒNOTHERA, Linn. (EVENING PRIMROSE.)

(800.) **Œ. biennis,** Linn. Common Evening Primrose.

Œ. parviflora, Pursh, 261.

Common under one form or another from the Atlantic to the Pacific. The various forms are enumerated below, and localities given where specimens have been obtained.

Var. **grandiflora,** Lindl.

Œ. grandiflora, Ait. Pursh, 261.

Vicinity of Ottawa. (*Fletcher Fl. Ott.*) This seems to be the common form on good soil in Ontario.

Var. **muricata,** Lindl.

Œ. muricata, Linn. Pursh, 261.

Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Gravel slopes, Gaspé coast, Q.; sandy shores and river banks, Ont., and common on the interior plains. (*Maconn.*) Saskatchewan. (*Drummond.*)

Var. **hirsutissima,** Gray.

Œ. Hookeri, Torr. & Gray, Fl. I., 493.

Great Shuswap Lake, British Columbia. (*Dawson.*)

(801.) **Œ. albicaulis,** Nutt.

Œ. pallida, Lindl. Torr. & Gray, Fl. I., 495.

Very common in the dry part of the prairie region. (*Macoun & Dawson.*) In the vicinity of Spence's Bridge, B.C. (*Hill.*)

(802.) **Œ. serrulata,** Nutt. var. **Douglasii,** Torr. & Gray.

Œ. leucocarpa, Lehm. Hook. Fl. I., 210. Macoun's Cat., No. 701.

Common on limestone rocks on the Red and Assiniboine Rivers. (*Douglas.*) Dry banks of the Saskatchewan. (*Drummond.*) Common on dry sandy or gravelly slopes throughout the prairie region. (*Macoun & Dawson.*)

(803.) **Œ. pumila,** Linn.

Œ. pusilla, Michx. Fl. I., 225.
Œ. riparia, Hook. Fl. I., 212.

Common on river banks amongst sand. Common at Pictou, N.S. (*McKay.*) Windsor, Halifax, Straits of Canso, Guysboro, Wilmot, and Annapolis, N.S. (*Sommers' Fl. N.S.*) Very frequent in dry fields and by roadsides, N.B. (*Fowler's Cat.*) Common near Quebec. (*Brunet.*) Beven's Lake, River Rouge, Q. (*D'Urban.*) Island of Orleans and ancient Lorette. (*Thomas.*) Nicolet, Q. (*Maclagan.*) Vicinity of Montreal. (*Holmes.*) Lake Mistassini, Q. (*Richardson.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) In the northern parts of Addington, Hastings, Peterboro, and Victoria Counties, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Mississaqui Island, Lake Huron, and north shore of Lake Superior. (*R. Bell.*) Parry Sound, and Lake of the Woods. (*Burgess.*)

(804.) **Œ. chrysantha,** Michx.

On drier ground than the preceding. Halifax, N.S. (*McKay.*) Windsor, N.S. (*How.*) Vicinity of Quebec, and at the Quarantine Station. (*Brunet.*) St. Helen's Island, Q.; Chippewa, Ont. (*Maclagan.*) Queenston Heights and Niagara Falls; twenty miles up the Kaministiquia River, Lake Superior; Dawson Route, near Lake Shebandowan, west of Lake Superior. (*Macoun.*) Hudson's Bay. (*Michaux.*) [?]

(805.) **Œ. fruticosa,** Linn.

Œ. hybrida, Michx. Fl. I., 225.

Lucyfield, near Halifax. (*Lawson.*) Grand Lake, N.S. (*Sommers.*) Island of Montreal. (*Goldie.*)

NOTE.—I have given all the localties from which the two last mentioned species have been reported. The last I believe to be really *Œ. chrysantha,* and that some of the reported occurences of *Œ. pumila* .

should likewise be referred to this species. Watson, in his revision of the genus, makes *Œ. chrysantha* merely a form of *Œ. pumila*, but I believe the Ontario form to be distinct from the latter. The attention of botanists is invited to the above species.

(806.) **Œ. strigulosa,** Torr. & Gray. Macoun's Cat., No. 702.

Œ. contorta, Dougl. Hook. Fl. I., 214.
Œ. parvula, Nutt. Torr. & Gray, Fl. I., 511.

On the dry slopes of Cedar Hill, near Victoria, Vancouver Island. (*Macoun.*)

(807.) **Œ. cæspitosa,** Nutt.

Œ. scapigera, Pursh, 263.
Œ. montana, Nutt. Torr. & Gray, Fl. I., 500.
Œ. marginata, Nutt. Torr. & Gray, Fl. I., 500.

On dry and scarped hills, along the face of the Côteau de Missouri ; also on high hills near Strong Current Creek and north of the Cypress Hills, N.W.T. (*Macoun.*) Short Creek, Souris River, and on the Milk River near the Rocky Mountains. (*Dawson.*)

(808.) **Œ. triloba,** Nutt.

Œ. heterantha, Nutt. Macoun's Cat., No. 700.

On hard clay soil, east of the Hand Hills, Long. 112°; also near Old Wives' Lakes, and westward to and north of the Cypress Hills. (*Macoun.*) Traders' Road, west of the Souris, Lat. 49°. (*Dawson.*)

(809.) **Œ. breviflora,** Torr. & Gray.

On the western end of Hand Hill Lake, Long. 112°; also at Old Wives Lake, and Gull Lake, north of the Cypress Hills, N.W.T. (*Macoun.*)

198. GODETIA, Spach.

(810.) **G. amœna,** Lilja.

Œnothera amœna, Lehm. Torr. &. Gray, Fl. I., 503.
Œ. Lindleyi, Dougl. Torr. & Gray, Fl. I., 502.
Œ. rubicunda, Hook. & Arn. Torr. & Gray, Fl. I., 502.
Œ. vinosa, Torr. & Gray, Fl. I., 503.

From Vancouver Island, near Victoria. (*Dawson.*) Reported from the coast south of the Fraser, B.C.

(811.) **G. quadrivulnera,** Spach.

Œnothera quadrivulnera, Dougl. Hook. Fl. I., 213.

Puget Sound and upper valley of the Columbia. (*Douglas.*) Will likely be found north of Lat. 49°.

199. CLARKIA, Pursh. (CLARKIA.)

(812.) **C. pulchella,** Pursh.

From the Great Falls of the Columbia to the Rocky Mountains. (*Douglas.*) Near Osoyoos Lake, southern boundary of British Columbia. (*Dawson.*)

200. BOISDUVALIA, Spach. (BOISDUVALIA.)

(813.) **B. densiflora,** Watson.

Œnothera densiflora, Lindl. Torr. & Gray, Fl. I., 505.

Vancouver Island, near Victoria. (*Dawson.*)

(814.) **B. glabella,** Walp.

Œnothera glabella, Nutt. Torr. & Gray, Fl. I., 505.

Pile of Bones Creek, Souris Plain; Weedy Lake, west of Old Wives Lakes and on the Cypress Hills, N.W.T. (*Macoun.*)

201. GAURA, Linn. (GAURA.)

(815.) **G. coccinea,** Nutt.

G. marginata, Lehm. Hook. Fl. I., 208.
G. glabra, Lehm. Hook. Fl. I., 209.

Plains of the Red and Saskatchewan Rivers. (*Drummond, Douglas.*) Abundant near Brandon and westward, on gravelly banks throughout the prairie region. (*Macoun.*) Badger Creek; dry banks, Wood End, Souris River; and westward to the mountains, Lat. 49°. (*Dawson.*)

(816.) **G. biennis,** Linn.

Dry banks. Moffatt's Island, Montreal; Malden, Ont. (*Maclagan.*) About Montreal. (*Cleghorn.*)

202. CIRCŒA, Tourn. (ENCHANTER'S NIGHTSHADE.)

(817.) **C. alpina,** Linn.

Common in damp, shady woods, from the Atlantic to the Pacific. Sitka. (*Rothr. Alask.*) This is wholly a forest species.

(818.) **C. Lutetiana,** Linn.

C. Lutetiana, var. *Canadensis*, Linn. Hook. Fl. I., 215.

Magdalen Islands, Gulf of St. Lawrence, and Pictou, N.S. (*McKay.*) Queensbury, N.B. (*Bailey.*) Keswick Ridge, Eel River, York Co., and Lower Norton, N.B. (*Hay.*) Common in Quebec. (*Brunet.*) Isle of Orleans. (*Thomas.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Mirivin's Woods, Prescott. (*Billings.*) Common in Prince Edward County, and westward throughout Ontario.

(819.) **C. Pacifica,** Aschers.

C. alpina, Hook. Pl. Bourgeau, 256.

Alpine Rocky Mountains, Bow River Pass. (*Bourgeau.*) Rocky Mountains, near the sources of the Columbia. (*Drummond.*) Mountain woods, west side of Rocky Mountains. (*Cowley.*)

XXXIX. MELASTOMACEÆ. Melastoma Family.

203. RHEXIA, Linn. (MEADOW BEAUTY.)

(820.) **R. Virginica,** Linn.

Sandy swamps; very rare. Shores of Muskoka Lake, also Lake Joseph, in the same region, Ont. (*Burgess.*)

XL. LYTHRACEÆ. Loosestrife Family.

204. LYTHRUM, Linn. (LOOSESTRIFE.)

(821.) **L. alatum,** Pursh.

Wet places; very rare in Ontario. Malden, Detroit River. (*Maclagan.*)

(822.) **L. Salicaria,** Linn.

L. Salicaria, var. *pubescens*, Pursh, 334.

Wet meadows; abundant in Upper Canada, Ont. (*Douglas.*) [?] I suspect this refers to the next species. (*M.*) Moist meadows near the Quarantine Station, Quebec. (*Brunet.*)

205. NESÆA, Juss. (SWAMP LOOSESTRIFE.)

(823.) **N. verticillata,** HBK.

Lythrum verticillatum, Linn. Michx. Fl. I., 281.
Decodon verticillatum, Ell. Hook. Fl. I., 219.

Muddy margins of lakes and ponds throughout Ontario; quite common. Montreal, Q. (*Maclagan.*) Mouth of River St. Pierre, near Montreal, Q. (*Holmes.*)

XLI. LOASACEÆ. LOASA FAMILY.

206. MENTZELIA, Plumier. (BARTONIA.)

(824.) **M. albicaulis,** Dougl.

Bartonia albicaulis, Hook. Fl. I., 222.

Along the Fraser and Thompson Rivers, from Boston Bar to the Nicola River, B.C. (*Macoun.*) Dry ground near Spence's Bridge, B.C. (*Hill.*)

(825.) **M. læviculis,** Torr. & Gray.

Bartonia lævicaulis, Dougl. Hook. Fl. I., 221.
B. parviflora, Dougl. Hook. Fl. I., 221.

On the gravelly islands and rocky shores of the Upper Columbia. (*Douglas.*) Along the Similkameen River, B.C. (*Dawson.*) Macoun's Cat., No. 710.

(826.) **M. ornata,** Torr. & Gray.

Bartonia ornata, Pursh, 326.

Sheltered valley, Foot-hills of the West Butte, Lat. 49°. (*Dawson.*)

XLII. CURCURBITACEÆ. GOURD FAMILY.

207. SICYOS, Linn. (STAR CUCUMBER.)

(827.) **S. angulatus,** Linn.

Elaterium trifoliatum, Linn. Torr. & Gray, Fl. I., 697.

Spontaneous in gardens, and around houses and barns, climbing over

fences, &c. Vicinity of Montreal. (*Brunet.*) St. Johns, Q. (*Maclagan.*) Waste heaps, and around gardens at Belleville, Ont. (*Macoun.*) Vicinity of Hamilton. (*Logie.*) Port Dover, Ont. (*Burgess.*)

208. ECHINOCYSTIS, Torr. & Gray. (WILD BALSAM APPLE.)

(828.) **E. lobata,** Torr. & Gray.

Momordica echinata, Hook. Fl. I., 220.
Sicyos lobatus, Michx. Fl. II., 217.

Spontaneous around dwellings in Ontario, but indigenous in the North-west. Dartmouth, near Halifax, N.S. (*Lawson.*) Intervales and islands at the mouth of the Keswick, N.B. (*Moser.*) Saint Laurent and Lotbinière. (*Brunet.*) Cayuga, Ont. (*Maclagan.*) Vicinity of Hamilton, Ont. (*Buchan*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Belleville and near Campbellford, Ont.; Fort Francis, Rainy River, Dawson Route; in the Qu'Appelle valley, near the source of the river. (*Macoun.*) Plains of the Red and Assiniboine Rivers, and banks of the Saskatchewan. (*Drummond, Douglas.*)

XLIII. CACTACEÆ. Cactus Family.

209. MAMILLARIA, Haworth.

(829.) **M. vivipara,** Haworth.

Cactus viviparus, Nutt. Pursh, 735.

Sand Hills at Flat Creek, west of Brandon, and on all sandy tracts to the west and south throughout the prairie region. (*Macoun.*) Wood End, Long. 103°; and Woody Mountain and westward to Long. 111°, Lat. 49°. (*Dawson.*)

210. OPUNTIA, Jour. (PRICKLY PEAR.)

(830.) **O. Rafinesquii,** Engelm. Macoun's Cat., No. 712.

Abundant on sand at the southern end of Pelee Point, Lake Erie. Said to grow on Long Point. (*Macoun.*)

(831.) **O. Missouriensis,** DC. Prickly Pear.

We refer all our eastern forms to this species, but without being certain, as specimens have seldom been preserved. The Qu'Appelle valley,

about two miles from its mouth, and the north bank of the Assiniboine above Shell River, are the most eastern localities known. It is found at Moose Jaw Creek and at the Elbow of the south Saskatchewan, and thence south and west to Long. 112° at the Hand Hills. A species which I believe to be the same, reappears again on the north bank of the Peace River, Lat. 56° 12′, where it grows on the arid clay slopes, exposed often to a temperature of 55° below zero. It is found from Fort St. John to 50 miles below Dunvegan, or for a distance of 150 miles. (*Macoun.*) On the boundary, Lat. 49°, it appears in Long. 103°, and disappears in Long. 111°. (*Dawson.*)

(832.) **O. ——— ?** Macoun's Cat., No. 713.

Abundant in the dry interior of British Columbia, from Spence's Bridge to Cache Creek and eastward to or near Kamloops. (*Macoun & Hill.*)

XLIV. FICOIDEÆ. Ice Plant Family.

211. MOLLUGO, Linn. (INDIAN CHICKWEED.)

(833.) **M. verticillata,** Linn. Carpet Weed.

An immigrant from farther south. On a sandy shore, subject to inundations, Grand Lake, N.B. (*Fowler's Cat.*) Borders of rivers near Montreal. (*Brunet.*) Island of Montreal. (*Holmes.*) Malden, Ont. (*Maclagan.*) On the railway track between Niagara Falls and Queenston. (*Macoun.*) Point Pelee, Lake Erie. (*Burgess.*)

XLV. UMBELLIFERÆ. Parsley Family.

212. HYDROCOTYLE, Tourn. (WATER PENNY WORT.)

(834.) **H. Americana,** Linn.

Shady damp places and along brooks. Three Mile House, near Halifax, N.S. (*Lawson.*) In shady, damp or springy places, common, N.B. (*Fowler's Cat.*) Common throughout Quebec and Ontario, but seldom collected.

213. SANICULA, Tourn. (SANICLE. BLACK SNAKE-ROOT.)

(835.) **S. Canadensis,** Linn. Canada Sanicle.

S. Marylandica, var. *Canadensis,* Torr. Hook. Fl. I., 257.
S. Marylandica, Torr. & Gray, Fl. I., 602. in part.

Rich, cool woods and thickets. Vicinity of Ottawa. (*Fletcher Fl.*

Ott.) Woods near Picton, Prince Edward Co.; near Belleville, and rich woods, Niagara Falls and Amherstburg, Lake Erie, Ont. (*Macoun.*) Woods west of Hamilton, Ont. (*Buchan.*) Near Barrie on Lake Simcoe, Ont. (*Spotten.*) Neighborhood of London, Ont. (*Burgess.*) Malden, Ont. (*Maclagan.*)

(836.) **S. Marylandica,** Linn.

Rich, cool woods; extending from Cape Breton and the Magdalen Islands in the Gulf of St. Lawrence, and in Newfoundland; also through Nova Scotia, New Brunswick, Quebec, Ontario, and westward to the Rocky Mountains. It is quite constant in character, and easily distinguished from the preceding species by the flowers.

(837.) **S. Menziesii,** Hook. & Arn.

North-west coast of America. (*Menzies.*) Abundant in the vicinity of Victoria, Vancouver Island. (*Macoun.*)

(838.) **S. arctopoides,** Hook. & Arn.

North-west coast of America. (*Menzies.*) Vicinity of Victoria, Vancouver Island. (*Macoun.*) Queen Charlotte Islands. (*Dawson.*)

(839.) **S. bipinnatifida,** Dougl.

Doubtless along the southern boundary of British Columbia, Lat. 49°.

214. CONIUM, Linn. (POISON HEMLOCK.)

(840.) **C. maculatum,** Linn.

Naturalized in towns and cities, from Europe. Very common in the vicinity of Quebec. (*Brunet.*) Naturalized in many parts of Quebec. (*Maclagan.*) Common at Bath, along the Bay of Quinte; in the village of Norham, Northumberland Co., Ont.; and waste places, Toronto. (*Macoun.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Very abundant in the city of London, Ont. (*Burgess.*)

215. MUSENIUM, Nutt.

(841.) **M. divaricatum,** Nutt.

Seseli divaricatum, Pursh, 732.

Abundant at Brandon, Manitoba, and on exposed slopes of the Assiniboine and other rivers south-west to the Rocky Mountains; also at Manitoba House, Lake Manitoba. (*Macoun.*) Pembina Mountain and Woody Mountain, N.W.T. (*Dawson.*)

Var. **Hookeri,** Torr. & Gray.

Seseli divaricatum, Hook. Fl. I., 264.
M. angustifolium, Torr. & Gray, Fl. I. 642.

About Carlton House, on the Saskatchewan. (*Douglas.*) In the vicinity of the Hand Hills, Long. 112°. (*Macoun.*)

(842.) **M. tenuifolium,** Nutt. Pl. Bourgeau, 263.

Rocky Mountains, Bow River Pass, Lat. 51°. (*Bourgeau.*) Dry bank, foot hills of Rocky Mountains. (*Dawson.*)

216. ERIGENIA, Nutt. (HARBINGER-OF-SPRING.)

(843.) **E. bulbosa,** Nutt.

Sison bulbosum, Michx. Fl. I., 169.
Hydroctyle composita, Pursh, 190.
H. ambigua, Pursh, 732.

Very abundant in rich woods around London, Ont. (*Burgess.*) Near St. Thomas, Ont. (*Buchan.*)

217. APIUM, Linn. (PARSLEY, CELERY.)

(844.) **A. Petroselinum,** Linn. Parsley.

This species has become spontaneous in old gardens and on waste heaps. It propagates itself freely from seed. (*Macoun.*)

218. CARUM, Koch. (CARRAWAY.)

(845.) **C. Carui,** Linn. Garden Carraway.

Escaped from cultivation in all old settlements, and becoming a weed in many places.

(846.) **C. Gairdneri,** Benth. & Hook.

Edosmia Gairdneri, Nutt. Torr. & Gray, Fl. I., 612.

In the beds of spring torrents or brooks which are dry in summer, from Old Wives Lakes to and beyond the Cypress Hillls, N.W.T. (*Macoun.*) South Fork of Belly River, abundant, Lat. 49°. (*Dawson.*)

219. PIMPINELLA, Linn. (BURNET SAXIFRAGE.)

(847.) **P. integerrima,** Benth. & Hook.

Smyrnium integerrimum, Linn. Pursh, 196.
Zizia integerrima, DC. Macoun's Cat. No. 733.

Dry, gravelly or sandy woods and thickets. Quebec, Isle of Orleans.

(*Thomas.*) Montreal Mountain. (*Maclagan.*) Abundant from Prescott westward throughout Ontario.

220. THASPIUM, Nutt. (MEADOW PARSNIP.)

(848.) **T. barbinode,** Nutt.

Ligusticum barbinode, Michx. Fl. I., 167.

Vicinity of London, Ont. (*Burgess.*) On the Canada Southern Railway, between Colchester Station and Amherstburg. (*Macoun.*) Chippawa and Detroit River. (*Maclagan.*)

(849.) **T. aureum,** Nutt.

Smyrnium aureum, Linn. Michx. Fl. I., 171.
Sium trifoliatum, Michx. Pursh, 194.
Zizia aurea, Koch. Hook. Fl. I., 260.

Dry thickets and moist river banks. Along the St. John River, N.B. (*Fowler's Cat.*) Quebec, Isle of Orleans, and other places. (*Brunet.*) Nun's Island, near Montreal. (*Holmes.*) Montreal Mountain; and Knowlton, Eastern Townships. (*McGill Coll. Herb.*) Banks of Conway's Creek, Prescott. (*Billings.*) Prince's Island, near Hamilton, Ont. (*Logie.*) Islands in the Detroit River. (*Maclagan.*) Common around London, Ont. (*Burgess.*)

(850.) **T. trifoliatum,** Gray.

Smyrnium cordatum, Walter. Pursh, 196.
S. trifoliatum, Muhl. Richards. in Frankl. Journ., 6.
Thaspium cordatum, Torr. & Gray, Fl. I., 615.
Zizia cordata, Koch. Hook. Fl. I., 260.

Abundant from the eastern borders of the prairie westward to the Rocky Mountains, and northward to the Peace River. (*Macoun.*) Abundant over the first and second prairie steppes, Lat. 49°. (*Dawson.*) Saskatchewan, and the River Winnipeg, and the prairies of the Rocky Mountains. (*Drummond.*) This species is quite variable, but we have not limited the varieties.

221. CICUTA, Koch. (WATER HEMLOCK.)

(851.) **C. maculata,** Linn. Spotted Cowbane.

Sium (?) Douglasii, DC. Hook. Fl. I., 263.

From the Atlantic to the Coast Range of British Columbia, and north on the Mackenzie to Lat. 64°. Coast east of Mackenzie River. (*Hook. Arct. Pl.*) The roots of this and following species are deadly poisons.

(852.) **C. virosa,** Linn. Musquash Poison.

Frequent from the Red River westward, on wet spots on the prairie, and quite common in the wooded country on the Saskatchewan, Athabasca and Peace Rivers. (*Macoun.*) Wooded country of the interior, from Lat. 54°–64°. (*Richardson.*) North end of Lake Winnipeg to York Factory. (*R. Bell.*) Coast east of Mackenzie River. (*Hook. Arct. Pl.*)

(853.) **C. bulbifera,** Linn.

Common in swamps throughout Nova Scotia, New Brunswick, Quebec and Ontario. From York Factory, Hudson's Bay, to the Saskatchewan. (*Drummond.*)

222. SIUM, Linn. (WATER PARSNIP.)

(854.) **S. cicutæfolium,** Gmelin.

S. lineare, Michx. Macoun's Cat., No. 737.
S. latifolium, Bigel. Hook. Fl. I., 262.
Apium lineare. Benth. & Hook. Gen. Pl. I., 888 and 893.

Wet places and ditches from the Atlantic to the Pacific and north to the Peace River country. (*Macoun.*) Coarse leaved forms of this species have been taken for *S. latifolium,* which is unknown in America

222. CRYPTOTÆNIA, DC. (HONEWORT.)

(855.) **C. Canadensis,** DC.

Sium Canadense, Linn. Michx. Fl. I., 168.
Chærophyllum Canadense, Crantz. Pursh, 195.

Rich, damp woods, Woodstock, N.B. (*Fowler's Cat.*) Very abundant in rich, low woods throughout Quebec and Ontario.

224. CHÆROPHYLLUM, Linn. (CHERVIL.)

(856.) **C. procumbens,** Crantz.

Abundant on White Island, in the Detroit River, opposite Amherstburg. (*Macoun.*)

225. BUPLEURUM, Linn. (THOROUGH WAX.)

(857.) **B. ranunculoides,** Linn.

Foot-hills of the Rocky Mountains, Lat. 49°. (*Dawson.*) Cape

Mulgrave in Behring's Straits. (*Lay & Collie.*) Port Clarence to Cape Lisburne; and Norton Sound. (*Rothr. Alask.*) East of Mackenzie River. (*Hook. Arct. Pl.*)

226. OSMORRHIZA, Raf. (SWEET CICELY.)

(858.) **O. longistylis,** DC. Smoother Sweet Cicely.

Pictou, N.S. (*McKay.*) Rich woods, Woodstock, N.B. (*Fowler's Cat.*) Crevices of rocks, St. Croix, Q. (*Brunet.*) Lachine Woods and Montreal Mountain. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Wind Mill Point, Prescott, Ont. (*Billings.*) Hamilton, Ont. (*Buchan.*) Vicinity of London, Ont.; Wood Mountain, N.W.T., Lat. 49°. (*Burgess.*) Ox Point, near Belleville; at Collingwood, and up the Kaministiquia River, Lake Superior; Moose Jaw Creek and Hand Hills, N.W.T. (*Macoun.*) On the Saskatchewan. (*Drummond.*) Near Winnipeg. (*Bourgeau.*)

(859.) **O. brevistylis,** DC. Hairy Sweet Cicely.

Myrrhis Claytoni, Michx. Fl. I., 170.
Chærophyllum Claytoni, Pers. Pursh. 195.

Rich, damp woods, from Nova Scotia and New Brunswick, throughout Quebec and Ontario, and westward to the Rocky Mountains. It is probable that the Rocky Mountains and British Columbia form belongs to the next species. I place all notices from those regions under it.

(860.) **O. nuda,** Torrey.

O. brevistylis, Bong. Hook. Fl. I., 272, in part.
O. divaricata, Nutt. Torr. & Gray, Fl. I., 639.

Woody places on the west side of the Rocky Mountains. (*Drummond.*) From Lat. 49° to Observatory Inlet, in Lat. 55°, on the West Coast. (*Douglas.*) Frequent in the lower valley of the Fraser. (*Macoun.*) Eastern base of the Cascades on Skagit River, B.C.; S. Kootanie Pass, at. 49°. (*Dawson.*) Rocky Mountains, Bow River Pass, Lat. 51°. *Bourgeau.*) Ounalashka and Sitka. (*Rothr. Alask.*)

227. GLYCOSMA, Nutt.

1.) **G. occidentale,** Nutt. Torr. & Gray, Fl. I., 639.

Myrrhis occidentalis, Benth. & Hook. Gen. Pl. I., 897.

n the Rocky Mountains in the Kootanie Pass. (*Dawson.*)

228. ŒTHUSA, Linn. (FOOL'S PARSLEY.)

(862.) **Œ. Cynapium,** Linn.

A weed in gardens. Introduced with garden seeds from Europe. Occasional in New Brunswick. (*Fowler's Cat.*) A weed in gardens at Belleville, Ont.; also, Seymour, Northumberland Co., Ont. (*Macoun.*)

229. ANTHRISCUS, Pers. (BEAKED PARSLEY.)

(863.) **A. vulgaris,** Pers. Common Beaked Parsley.

Introduced from Europe at Bedford, N.S. (*Lindsay.*)

230. LIGUSTICUM, Linn. (LOVAGE.)

(864.) **L. Scoticum,** Linn. Scotch Lovage.

Newfoundland. (*Miss Brenton.*) Pictou, N.S.; St. Paul's Island, Gulf of St. Lawrence, and Cape Breton. (*McKay.*) Halifax, N.S. (*Lawson.*) Near salt water on banks and rocks, N.B. (*Fowler's Cat.*) Common on the cliffs along the Bay of Chlaleur and along the Gaspé coast to Rivière du Loup, Q. (*Macoun.*) Tadousac and Labrador coast. (*Brunet.*) Observatory Inlet. (*Scouler.*) Behring's Straits. (*Chamisso.*) Sitka, Kodiak, Kotzebue Sound, and Norton Sound. (*Rothr. Alask.*) South Greenland. (*Hook. Arct. Pl.*)

(865.) **L. actæifolium,** Michx. Fl. I., 166.

Ferula Canadensis, Linn. Hook. Fl. I., 268.
Angelica lucida, Bart. Pursh, 193.
Thaspium actæifolium, Nutt. Hook. Fl. I., 265.

Parsboro', N. S. (*How.*) Near Tadousac, on the banks of the St. Lawrence. (*Michaux.*) A very doubtful species: more likely the preceding one.

231. SELINUM, Linn. (HEMLOCK PARSLEY.)

(866) **S. Canadense,** Michx.

Cnidium Canadense, Sprong. Hook. Fl. I., 264.
Coniosselinum Canadense, Torr. & Gray. Macoun's Cat., 734.

Wet borders of streams. Not very common, N.B. (*Fowler's Cat.*) Mouth of the St. Lawrence. (*Michaux.*) On sea cliffs along the Gaspé coast; also in a peat bog on the top of Mount Albert, Shickshock

Mountains, altitude 4,000 feet. (*Macoun.*) Lotbinière and Tadousac, on the rocks. (*Brunet.*) Seashore, Rivière du Loup. (*Thomas.*) Lake Temiscouta, Q. (*Maclagan.*) Galt and Hamilton, Ont. (*Buchan.*) Vincinity of London, Ont. (*Burgess.*)

(867.) **S. Pacificum,** Watson.

Two species are found in North-western America, which I place provisionally under this and the next species. All references are placed under the next. I follow Watson in the synonomy.

(868.) **S. Benthami,** Watson.

Conioselinum Fischeri, Bong. Hook. Fl. I., 266.
Ligusticum hirsutum, Hook. & Arn. Hook. Fl. I., 270.

Labrador. (*Morrison.*) Arctic sea coast, between the Coppermine and Mackenzie Rivers. (*Richardson.*) Straits of De Fuca, on the North-west coast. (*Scouler.*) Sitka, Ounalashka, Kotzebue Sound and Arctic coast. (*Rothr. Alask.*)

232. ANGELICA, Linn. (ANGELICA.)

(869.) **A. genuflexa,** Nutt.

Common in northern British Columbia, and in woods on the Peace River, at the Rocky Mountain Canyon, Lat. 56°. (*Macoun.*)

(870.) **A. lucida,** Linn.

Canada. (*Pursh.*) Neither Sir William Hooker nor any American writer throws any light on this species; but should it be an American species, distinct from others, it will likely be found in Newfoundland or on the coast of Labrador.

233. ARCHANGELICA, Hoffm. (ARCHANGELICA.)

(871.) **A. atropurpurea,** Hoffm. Great Angelica.

Angelica atropurpurea, Lindl. Hook. Fl. I., 267.
A. triquinata, Michx. Pursh, 193.

On low grounds along streams. Coast of Labrador. (*Butler.*) West coast of Newfoundland. (*J. Bell.*) Bartilog, Northumberland Co., and at Harris' Cove, on the Kennebecasis, N.B. (*Fowler's Cat.*) Isle of Orleans, Saint Lambert and Lotbinière, Q. (*Brunet.*) Coast of Gaspé, Q.; Flats of Salmon River, Hastings Co.; Cold Creek Flats, Northumberland Co., Ont.; up the Kaministiquia and along the north shore of

Lake Superior, and on Michipicotin Island. (*Macoun.*) Vicinity of London, Ont., rare. (*Saunders.*) Near Hamilton, Ont. (*Logie.*) Dundas and Fullerton, Ont. (*Buchan.*)

(872.) **A. Gmelini,** DC.

A. officinalis, Hook. Fl. I., 267.
A. peregrina, Nutt. Torr. & Gray, Fl. I., 622.

Coast of Labrador. (*McGill Coll. Herb*). On the shore of Courtney Bay, near the Penitentiary, N.B. (*Fowler's Cat.*) Abundant on the Gaspé coast, from Grand Etang to Ste. Anne des Monts. (*Macoun.*) Queen Charlotte Islands. (*Dawson.*) Sitka, Ounalashka and Kotzebue Sound. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(873.) **A. hirsuta,** Torr. & Gray.

Ferula villosa, Walt. Pursh, 192.
Angelica triquinata, Nutt. Hook. Fl. I., 267.

Both Pursh and Michaux credit this species to Canada. It will probably be found in south-western Ontario.

234. CYMOPTERUS, Raf.

(874.) **C. terebinthinus,** Torr. & Gray.

C. albiflorus & thapsoides, Torr. & Gray, Fl. I., 625.
C. fœniculaceus, Torr. & Gray, Fl. I., 624.
Selinum terebinthinum, Hook. Fl. I., 266.

On the Rocky Mountains in the Kootanie Pass, Lat. 49°. (*Dawson.*) It will likely be found in the mountains along the same parallel to the coast.

(875.) **C. glomeratus,** Raf.

Selinum acaule, Pursh, 732.
Ferula (?) Palmella, Hook. Fl. I., 268.

About Carlton House, on the Saskatchewan. (*Drummond.*) Souris River, Lat. 49°. (*Burgess.*) At Wood End, N.W.T., Lat. 49.° (*Dawson.*)

235. PEUCEDANUM, Linn. (HOG'S FENNEL.)

(876.) **P. leiocarpum,** Nutt.

Seseli leiocarpum, Hook. Fl. I., 263.
P. triternatum, Gray, Proc. Am. Acad. VIII., 385.

On the dry interior of British Columbia, east of the Coast Range. (*Macoun & Dawson.*)

(877.) **P. triternatum,** Nutt.

Seseli triternatum, Pursh. Hook. Fl. I., 264.

Will very likely be found along the southern boundary of British Columbia.

(878.) **P. ambiguum,** Nutt.

P. lævigatum, Nutt. Torr. & Gray, Fl. I., 627.

Along the Fraser River in the vicinity of Yale, B.C. (*Macoun.*)

(879.) **P. utriculatum,** Nutt.

Vicinity of Victoria, Vancouver Island, and along the Fraser, above Yale, B.C. (*Macoun.*)

(880.) **P. fœniculaceum,** Nutt.

Ferula fœniculacea, Nutt. Hook. Fl. I., 268, in part.

Carlton House, on the Saskatchewan. (*Drummond.*) On the Assiniboine, near Brandon, at the narrows of Lake Manitoba, and frequent on bluffs along the Coteau de Missouri, and the high banks of rivers, N.W.T. (*Macoun.*) Wood End, Souris River, N.W.T., Lat. 49°. (*Dawson.*)

(881.) **P. macrocarpum,** Nutt.

Ferula fœniculacea, Hook. Fl. I., 268, in part.
Thaspium macrocarpum, Pl. Bourgeau, 257.

Along the Fraser at Lytton, B.C. (*Macoun, Dawson.*) Saskatchewan Plains. (*Bourgeau.*)

(882.) **P. sativum,** Benth. & Hook. Common Parsnip.

Pastinaca sativa, Linn. Macoun's Cat., No. 725.

Very common in many localities in and around gardens and orchards, and along roadsides. It has become thoroughly established in Ontario. Escaped from gardens in New Brunswick. (*Fowler's Cat.*) In various localities, Quebec. (*Brunet.*) Common in Manitoba and at many H. B. Co's. posts. (*Macoun.*)

236. HERACLEUM, Linn. (COW ARSNIP.)

(883.) **H. lanatum,** Michx.

Very common in almost every part of the country, from Newfoundand and Labrador, and the islands in the Gulf of St. Lawrence to the 'acific and north to Sitka. The Indians of northern British Columbia ıew the petioles of the leaves, and seem to relish the juice very much. ıe south-western branch of the Peace River is named the "Parsnip," account of the abundance of this species in its valley.

237. FERULA, Linn.

(884.) **F. dissoluta,** Watson, Bot. Calif. I., 271.
F. dissecta, Gray. Macoun's Cat., No. 748.

Abundant on the mountain slopes above Spence's Bridge, B. C.

(885.) **F. multifida,** Gray.
Leptotænia multifida, Nutt. Torr. & Gray, Fl. I., 630.

Common in rich grassy thickets, near Victoria, Vancouver Island. (*Macoun.*) Mountains in the S. Kootanie Pass, Lat. 49°. (*Dawson.*) All the specimens examined, of those two species, are very young and may be incorrectly determined.

238. DAUCUS, Tourn. (CARROT.)

(886.) **D. pusillus,** Michx. var. **microphyllus,** Torr. & Gray.
D. microphyllus, Presl. Hook. Fl. I., 271.

Nootka Sound and Straits of De Fuca. (*Scouler.*) Abundant on dry hills around Victoria, Vancouver Island. (*Macoun, Hill.*)

(887.) **D. Carota,** Linn. Cultivated Carrot.

Occasionally found, for a year or two, in gardens and fields, but can scarcely be said to have become spontaneous anywhere.

239. ARCHEMORA, DC. (COWBANE.)

(888.) **A. rigida,** DC.
Sium rigidius, Linn. Pursh, 194.
Sison marginatum, Michx. Fl. I., 168.

Sandy or other swamps, western Ontario. Colchester Station, Canada Southern Railway. (*Macoun.*) Malden, Ont. (*Maclagan.*) Port Colborne. (*McGill Coll. Herb.*)

XLVI. ARALIACEÆ. GINSENG FAMILY.

240. ARALIA, Tourn. (GINSENG.)

(889.) **A. racemosa,** Linn. Spikenard.

On turned up stumps in damp woods. Common at Pictou, N.S.

(*McKay.*) Near Halifax. (*How.*) Rather uncommon in rich woods, N.B. (*Fowler's Cat.*) Quite common throughout Quebec and Ontario.

(890.) **A. hispida,** Vent. "Dwarf Elder."

Rocky and sandy woods and banks. Common from Newfoundland and the Magdalen Islands in the Gulf of St. Lawrence, westward throughout Quebec and Ontario to the Hudson's Bay. (*R. Bell.*)

(891.) **A. nudicaulis,** Linn. Wild Sarsaparilla.

Very abundant in rich, damp woods, from the Atlantic to the Rocky Mountains. On the west coast, Newfoundland. (*J. Bell.*) Throughout the wooded country of the interior and down the Mackenzie to Lat. 64°. (*Richardson.*)

(892.) **A. quinquefolia,** Decsne. Ginseng.

Panax quinquefolium, Linn. Hook. Fl. I., 273.

Rich and cool woods; rather rare. Mossy woods near Montreal. (*Brunet.*) Montreal Mountain. (*Holmes.*) Belœil Mountain, Q. (*Maclagan.*) Miriwin's Woods, near Prescott. (*Billings.*) Kingston Mills, Ont. (*J. Bell.*) Woods rear of Picton, also at Belleville, and in Seymour, Brighton, Sidney and Cramahe, Ont.; Owen Sound and near Amherstburg. (*Macounn.*) Vicinity of Hamilton. (*Logie.*) Four miles north of London, rare. (*Saunders.*) Near Woodstock, Ont. (*Burgess.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*)

(893.) **A. trifolia,** Decsne. Dwarf Ginseng.

Panax trifolium, Linn. Hook. Fl. I., 273.

Rich woods; rather local. Pictou, N.S.; rare. (*McKay.*) Cow Bay, near Halifax. (*Lindsay.*) Truro, N.S. (*Campbell.*) Rich woods, Hudson's Brook, Kent Co., N. B. (*Fowler's Cat.*) Charlesburg, Q. (*Brunet.*) Valley of the River Rouge, Q. (*D'Urban.*) Common in western Quebec. (*McGill Coll. Herb.*) Frequent throughout Ontario.

241. FATSIA, Benth. & Hook.

(894.) **F. horrida,** Benth. & Hook. Devil's Club.

Panax horridum, Smith. Hook. Fl. I., 273.
Echinopanax horridus, Decsne. Macoun's Cat. No. 759.

North-west coast of America. (*Menzies.*) Abundant on the west side of the Rocky Mountains, from the source of the Columbia to Lat. 49°. (*Douglas.*) Queen Charlotte Sound. (*Scouler.*) East side of the Rocky Mountains, extremely rare. (*Drummond.*) Very abundant in Peace

River Pass, especially along the base of Mount Selwyn. (*Macoun.*) Sitka and Kodiak. (*Rothr. Alask.*)

XLVII. CORNACEÆ. Dogwood Family.

242. CORNUS. Tourn. (CORNEL. DOGWOOD.)

(895.) **C. Canadensis,** Linn. Dwarf Cornel. Bunchberry.

Very abundant in cool, sandy woods, from the Atlantic to the Pacific, across the whole of the wooded country, and north as far as the spruce extends. (*Richardson.*) Sitka. (*Rothr. Alask.*)

(896.) **S. Suecica,** Linn. Lapland Cornel.

Labrador. (*Brunet.*) Newfoundland. (*Morrison.*) Brandy Pots' Island, River St. Lawrence. (*Kelly.*) Sparingly along the shore at Rivière du Loup, Q. Coast of Newfoundland. (*McGill Coll. Herb.*) Behring's Straits. (*Chamisso.*) Common on the western coast of Alaska. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(897.) **C. Unalaskensis,** Ledeb.

Ounalashka. (*Rothr. Alask.*)

(898.) **C. florida,** Linn. Flowering Dogwood.

Woods beside the Waterdown Road, in the valley below Ancaster and West Flamboro', also near Albion, vicinity of Hamilton. (*Logie.*) Niagara district. (*Maclagan.*) Very abundant on the line of the Canada Southern Railway, from St. Thomas to Amherstburg, Ont., and eastward to Fort Erie, at the foot of Lake Erie. (*Macoun.*) Near London, Ont. (*Burgess.*)

(899.) **C. Nuttallii,** Audubon. Westering Flowering Dogwood.

C. florida, Hook. Fl. I., 277, in part.

Quite common in the neighborhood of Yale, B.C. (*Macoun, Hill.*)

(900.) **C. circinata,** L'Her. Round Leaved Cornel.

C. tomentulosa, Michx. Fl. I., 91.

Dry, sandy thickets. Pictou, N.S. (*McKay.*) Windsor, N.S. (*How.*) Weldford, Kent Co., probably, not rare. (*Fowler's Cat.*) Lotbinière, and at St. Laurent. (*Brunet.*) On limestone rocks, River Rouge, Q. (*D'Urban.*) Beleeil Mountain, Q.; and Niagara Falls. (*Maclagan.*) Thickets G. T. R. Gravel Pit, Prescott, Ont. (*Billings.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Common around Belleville and Rice

Lake Plains, and westward to Toronto; Owen Sound, and at Kababeka Falls, 30 miles west of Fort William, Lake Superior. (*Macoun.*) Mountain side, near Hamilton. (*Logie.*) Vicinity of London, Ont. (*Burgess.*)

(901.) **C. sericea,** Linn. Silky Cornel.

C. lanuginosa, Michx. Fl. I., 92.

On gravel bars in rivers and wet places. New Brunswick (no locality given.) (*Fowler's Cat.*) Very common on the borders of rivers in Quebec. (*Brunet.*) Bank of the Moira at Belleville, and in Prince Edward Co., Ont. (*Macoun.*) Chippawa and Malden. (*Maclagan.*) Vicinity of London, Ont. (*Burgess.*) This species is no doubt often included in the next.

(902.) **C. stolonifera,** Michx. Red-Osier Dogwood. Kinnikinnik. Arrow-wood.

C. alba, Lam. Hook. Fl. I., 276., in part.
C. sanguinea, Marsh. Hook. Fl. I., 276.

Very abundant in low grounds along streams, from the Atlantic to the Pacific, and northward to Lat. 69°, in the Mackenzie River valley. On the west side of the continent it is mixed with the next species, from which it may be distinguished by the straight appressed hairs on the young shoots.

(903.) **C. pubescens,** Nutt.

C. alba, var. *β.* Hook. Fl. I., 276. Macoun's Cat., Nos. 762 and 765.
C. sericea, var. (?) *occidentalis,* Torr. & Gray, Fl. I., 652.

North-west coast. (*Menzies.*) On the Thompson, at Spence's Bridge, B.C. [?] (*Macoun.*) All British Columbia forms should be carefully collected in fruit.

(904.) **C. asperifolia,** Michx. Rough-leaved Cornel.

Abundant on Pelee Point, Lake Erie, growing in sand. It is probable this species is common along the Lake Erie shore. (*Macoun.*)

(905.) **C. paniculata,** L'Her. Panicled Cornel.

Dry, sandy thickets and borders of fences. Halifax, N.S. (*McKay.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Abundant throughout Ontario and possibly farther east than Ottawa, but taken for *C. sericea.*

(906.) **C. alternifolia,** Linn. Alternate-leaved Cornel.

A small tree on the borders of woods. Pictou, N.S. (*McKay*). Halifax, N. S. (*Sommers.*) In open woods, N. B. (*Fowler's Cat.*) Sparingly in woods along the River Rouge, Q. (*D'Urban.*) Montreal

Mountain. (*Maclagan.*) Common from Ottawa to the west side of Lake Superior on the Kaministiquia. (*Macoun.*)

243. NYSSA, Linn. (PEPPERIDGE. SOUR GUM TREE.)

(907.) **N. multiflora,** Wang. Pepperidge.

N. aquatica, Linn. Michx. Arb. Amer. II., 165.
N. biflora, Michx. Fl. II., 259. Pursh, 177.
N. villosa, Michx. Fl. II., 259. Pursh, 177.

One tree was observed in a field at Bismark on the Canada Southern Railway, and large numbers of fine trees in a "pepperidge swamp," between Essex Centre and Leamington, Ont. (*Macoun.*) Common report in the County of Essex, Ont., makes this an abundant tree in many swamps of that district.

GEOLOGICAL AND NATURAL HISTORY SURVEY OF CANADA.
ALFRED R. C. SELWYN, LL.D., F.R.S., F.G.S., DIRECTOR.

CATALOGUE

OF

CANADIAN PLANTS.

PART II.—GAMOPETALÆ.

BY

JOHN MACOUN, M.A., F.L.S., F.R.S.C.,
Botanist to the Geological and Natural History Survey of Canada.

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PREFACE.

PART II.

In the preface to the first part of this catalogue, mention was made of the authorities from which our materials were drawn, and the names of the various botanists from whom or through whom we had obtained a knowledge of the geographical range of the various species.

One important omission was, however, inadvertently made. Prominence should have been given to the fact that through the kindness of Dr. Asa Gray and his able assistant, Sereno Watson, Esq., all doubtful species were critically examined and reported on by them. In every case their decision was considered final, except where mention is made of divergence of opinion and the reasons therefor given in the text. For many years these gentlemen have assisted me in determining our difficult phenogams, and much of the real value of the present work is due to them.

During the past year additional data have been obtained from most of the Provinces, chiefly from the following sources:—Extensive collections were made by myself in Nova Scotia, Cape Breton and Anticosti. In New Brunswick several enthusiastic botanists have greatly extended the knowledge of the flora and added many species to the provincial list. Mr. Henry Ami, of the Geological and Natural History Survey, has added a number of interesting species to the Ontario flora, and Adis Fowler, C.E., of Toronto, has contributed a local list of the species found near that city. David F. Day, President of the Buffalo Natural History Society, has transmitted a complete list of the species collected by himself and others on the Canadian side of the Niagara River and on the shore of Lake Erie. The Canadian Pacific Railway Company had extensive collections made last summer in the prairie region by Messrs. Mason, Ducker, Creelman and J. M. Macoun. Dr. G. M. Dawson, assisted by J. B. Tyrrell, B.A., in connection with his explora-

tions in the Rocky Mountains has made many valuable additions to the flora of that region. In British Columbia, Mr. James Fletcher, of Ottawa, has collected on Vancouver Island and in the valleys of the Fraser and Thompson rivers; while Mr. Cowley and J. A. Hill, C.E., have favoured me with many interesting plants from various parts of that province.

Special thanks are due to Thomas Meehan, Esq., State Botanist of Pennsylvania, for an extensive manuscript list of the species collected by him on the British Columbian and Alaskan coasts, during the summer of 1883. This list is a valuable addition to our knowledge of the west coast flora.

It is proposed to continue the present work until all known species of Canadian plants are catalogued, and their geographical range recorded, and the writer earnestly invites all botanical students within the Dominion to assist in this necessary work. The next part will complete the exogens, and to this an addendum will be attached bringing our knowledge of the foregoing parts up to date.

JOHN MACOUN.

GAMOPETALOUS EXOGENS.

XLVIII. CAPRIFOLIACEÆ. Honeysuckle Family.

244. ADOXA, Linn.

(908.) **A. Moschatellina,** Linn. Tuberous Moschatel.

In damp shady places under trees. Wooded country, Lat. 54°–64°. (*Richardson.*) Along a small stream on the Telegraph Trail, east of Nechacco River, B. C. (*Macoun.*) Cariboo Mountains, B.C. (*Cowley.*)

245. SAMBUCUS, Linn. (ELDER.)

(909.) **S. racemosa,** Linn. Red-berried Elder.

S. racemosa, β. Hook. Fl. I., 279.
S. pubens, Michx. Var. γ. *arborescens*, Torr. & Gray, Fl. II., 13.

Rocky hillsides from the eastern side of the Rocky Mountains to the Pacific. Rocky Mountains on the east side. (*Drummond.*) Slope of the south Kootanie Pass, and at Michell Creek, Crow Nest Pass, Lat. 50°; Tsi-tsutl Mountains, B. C. (*Dawson.*) Thickets around Victoria, Vancouver Island, and at Quesnel, B.C. (*Macoun.*) Sitka. (*Rothr. Alask.*)

Var. **pubens,** Watson, King's Rept. V., 133.

S. pubens, Michx. Gray, Manual, 205. Macoun's Cat., No. 785.
S. pubescens, Pers. Pursh, Fl. I., 204.
S. racemosa, Hook. Fl. I., 279.

Common along fences and in rocky thickets from Nova Scotia to the Saskatchewan. This form has generally five leaflets while the last has seven, with the under side much more pubescent in the mountain specimens.

(910.) **S. Canadensis,** Linn. Common Elder.

In low thickets and along fences, frequent from Nova Scotia to the Saskatchewan. Berries purple.

246. Viburnum, Linn. ARROW-WOOD.)

(911.) **V. Lentago,** Linn. Sweet Viburnum. Sheep-berry.

Common from Rivière du Loup westward to the valleys of the Red, Assiniboine, and Saskatchewan rivers. Its usual habitat is river valleys where it sometimes grows to the height of twenty feet with a diameter of six inches. Its wood is of a yellow color and when fresh cut has a very powerful and offensive odor.

(912.) **V. nudum,** Linn. Var. **cassinoides,** Torr. & Gray.

V. nudum, Hook. Fl. I., 279.
V. pyrifolium, Pursh, Fl. I., 201.
V. cassinoides, Linn. Pursh, Fl. I., 202.
V. prunifolium, Hook. Fl. I., 279.

Common in cold swamps and rocky wet woods from Newfoundland, Nova Scotia and New Brunswick to the Saskatchewan. Rare in southern Ontario. Port Colborne, Ont. (*David F. Day.*)

(913). **V. dentatum,** Linn. Arrow-wood.

Wet places and thickets in south-western Ontario. La Grande Chaudière, Ottawa. (*Pursh.*) [Extremely doubtful.] Woods, north of the Junction, Prescott, Ont. (*Billings.*) Chippawa, Ont. (*Maclagan.*) It is probable that part of the above references belong to the next species. Deleware station near St. Thomas, Ont. (*Macoun.*)

(914.) **V. pubescens,** Pursh. Downy Arrow-wood.

Dry rocky fields and thickets extending from the western part of Quebec to Manitoba, near Brandon on the Assiniboine. Nicolet, Q. (*Maclagan*) is its eastern limit. Although called Downy Arrow-wood, it is often almost smooth, and approaches closely to the preceding except in its short petioles which are constant.

(915.) **V. acerifolium,** Linn. Maple-leaved Arrow-wood.

Dry rocky thickets and borders of woods. Belœil and Montreal Mountains. (*McGill Coll. Herb.*) Common in Ontario. (*Macoun.*) From Lake Huron to the Saskatchewan. (*Drummond.*) This species is reported from Newfoundland, Nova Scotia and Alaska, but, as it was formerly confounded with the next, I believe these references belong to that species

(916.) **V. pauciflorum,** Pylaie. Few-flowered Viburnum.

V. acerifolium, Bongard's Veg. Sitka.
V. Oxycoccus, Pursh. Hook. Fl. I., 281, in part.
V. edule, DC. Hook. Fl. I., 281, in part.

Very common in cool low woods or on mountain slopes throughout the northern forest region. Labrador. (*Butler.*) Mountains near Joachim, Q. (*Brunet.*) Anticosti, Gaspé Peninsula, north shore of Lake Superior, and westward to northern British Columbia, where it is very abundant; also, Cypress Hills, N. W. T. (*Macoun.*) Flathead River, B. C. (*Dawson.*) Saskatchewan to Slave Lake in Lat. 66°. (*Richardson.*) Sitka. (*Rothr. Alask.*)

(917.) **V. Opulus,** Linn. High-bush Cranberry.

V. Oxycoccus, Pursh. Hook. Fl. I., 281, in part.
V. edule, DC. Hook. Fl. I., 281, in part.
V. Opulus, Linn. Var. *Americanum*, Ait. Torr. & Gray, Fl. II., 18.

In river valleys and low damp meadows by brooks. Anticosti, Nova Scotia, and westward to the valleys of the Red, Assiniboine and Saskatchewan rivers. More southern than the preceding, and ripening its abundant fruit, which, however, is far from being so pleasant as that of *V. pauciflorum*, much later.

(918.) **V. lantanoides,** Michx. Hobble-bush.

Common in cool, damp or rocky woods from Nova Scotia and New Brunswick, throughout Quebec and northern Ontario, to Lake Superior.

247. LINNÆA, Gronov. (TWIN-FLOWER.)

(919.) **L. borealis,** Gronov. Northern Twin-flower.

Very abundant in cool, mossy woods from the Atlantic to the Pacific and far northward.

Var. **longiflora,** Torrey in Bot. Wilkes Exped.

Queen Charlotte Islands. (*Dawson.*) This form has larger flowers with a long tapering tube and much longer and wider sepals. (*Macoun.*)

248. SYMPHORICARPOS, Juss. (SNOW-BERRY.)

(920.) **S. occidentalis,** R. Br. Wolf-berry.

Very common throughout the prairie region extending from the

eastern margin of the prairie to the Rocky Mountains. (*Macoun.*) Forest country, Lat. 54°–64°. (*Richardson.*)

(921.) **S. racemosus,** Michx. Snow-berry.

Symphoria racemosus, Pers. Pursh, Fl. I., 162.
Xylosteum ciliatum, β. album, Pursh, Fl. I., 161.

Rocky and dry river-banks and in thickets where limestone gravel prevails. Pictou, N.S. (*McKay.*) Truro, N.S. (*Macoun.*) Common in gardens (cultivated), N.B. (*Fowler's Cat.*) On mountains near Lake Mistassini, Q. (*Michaux.*) Very abundant in the limestone districts of Ontario, and extending westward to the Rocky Mountains and British Columbia. (?)

Var. **pauciflorus,** Robbins.

Same habitat but seldom separated from the last. The common form at Ottawa. (*Fletcher.*) On the Canadian side of the Niagara River, near the Falls. (*David F. Day.*) Vicinity of Toronto. (*Burgess.*) Belleville, Ont. (*Macoun.*) Port Colborne, Ont. (*McGill Coll. Herb.*) South of Battleford, N.W.T. (*Macoun.*)

249. LONICERA, Linn. (HONEYSUCKLE. WOODBINE.)

(922.) **L. ciliosa,** Poir.

L. occidentalis, Hook. Fl. I., 282. Macoun's Cat. No. 777.
Caprifolium ciliosum, Pursh, Fl. I., 160.

Rocky hillsides Pacific coast. Vancouver Island, near Victoria. (*Fletcher & J. Richardson.*) Skagit River, B.C. (*Dawson.*)

(923.) **L. hispidula,** Douglas. Var. **Douglasii,** Gray.

L. (?) microphylla, Hook. Fl. I., 283.

Vicinity of Victoria, Vancouver Island. (*J. Richardson.*)

(924.) **L. hirsuta,** Eaton. Hairy Honeysuckle.

Climbing high over bushes and along fences, from the Ottawa westward. Beauharnois Co., Q. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Wolfe Island, Kingston, Ont. (*Maclagan.*) Common at London, Ont., and Prince Arthur's Landing, Lake Superior. (*Burgess.*) Common in central Ontario, also up the Kaministiquia River, Lake Superior. (*Macoun.*) Pancake River, Lake Huron. (*J. Bell.*) Owen Sound and Sable. (*McGill Coll. Herb.*)

(925.) **L. Sullivantii,** Gray.

L. flava var. *β.* Torr. & Gray, Fl. II., 6.
L. Douglasii, Hook. Fl. I., 282.

Neighborhood of Winnipeg. (*Gray,* 1883.) I refer specimens which I have hitherto named *L. parviflora,* var. *Douglasii* to this species. These were collected at the Pic River, Lake Superior, on the Assiniboine at Fort Ellice, and at Manitoba House, Lake Manitoba, Man. (*Macoun.*) In the vicinity of Emerson, Red River, Man. (*Dawson.*) Moose Mountain, Man. (*J. M. Macoun in C. P. R. Coll.*)

(926.) **L. glauca,** Hill. Smooth Honeysuckle.

L. parviflora, Lam. Gray, Man. Ed. V., 204. Macoun's Cat. No. 779.
Caprifolium parviflorum, Pursh, Fl. I., 161.
C. bracteosum, Michx. Fl. I., 105.

Montreal Mountain. (*Holmes.*) Common throughout Ontario in thickets and along fences. (*Macoun.*) Near Emerson, Man. (*Burgess.*) Occasionally met with in Manitoba. (*Macoun.*) Frequent, and as far north as the Saskatchewan, and from Hudson Bay to the Rocky Mountains. (*Hooker.*) Milk River Ridge, Long. 112°, N. W. T. (*Dawson.*) Hooker mentions two varieties, one with glabrous leaves, which we recognize as the species under consideration. The other with leaves which are pubescent on the under side, which is our western form or *L. Sullivantii* (*Gray.*)

(927.) **L. involucrata,** Banks.

Rocky woods and banks of streams throughout the wooded region. Near the confluence of the Metapedia and Restigouche Rivers, N.B. (*Chalmers.*) Ste. Anne's River, Gaspé, Q. (*Porter.*) Port Arthur Lake Superior. (*Macoun.*) North and South Kootanie Passes; eastern slope of Rocky Mountains and Belly River. (*Dawson.*) Forest country, Lat. 54°–64°, thence to the Rocky Mountains. (*Richardson.*) Frequent on the north-west coast, Lat. 54°–56. (*Douglas.*) Common in northern British Columbia. (*Macoun.*) Queen Charlotte Islands and Coast Range, B.C. (*Dawson.*) Abundant near, Victoria, B.C. (*Fletcher.*)

(928.) **L. ciliata,** Muhl. Fly Honeysuckle.

Xylosteum Tartaricum, Michx. Fl. I., 106.
X. ciliatum, Pursh, Fl. I., 161.

Damp and rocky woods; generally on turned up stumps. Common in Nova Scotia, New Brunswick, and westward throughout Quebec and Ontario, to the Saskatchewan. (*Macoun.*) Dean or Salmon River, B. C. (*Dawson.*)

(929.) **L. cærulea,** Linn. Mountain Honeysuckle.

Xylosteum villosum, Richards. in Frankl. Journ. 6.

Swamps and high northern woods, common northwards. In bogs Labrador, Newfoundland, Nova Scotia, New Brunswick, Anticosti and Quebec, Michipicotin Island, Lake Superior, and in swamps along the north shore; extending westward, in the forest region, to the northern part of British Columbia. (*Macoun.*) Throughout the wooded country and as far north as Lat. 66°. (*Richardson.*) A specimen in fruit with oval rather long-petioled leaves, gathered in the South Kootanie Pass by Dr. G. M. Dawson, is doubtfully referred here.

Var. **villosa,** Torr. & Gray Fl. II., 9.

Xylosteum villosum, Michx. Pursh, Fl. I., 161.

Distinguished from the last by its hairy branches and leaves. Hudson Bay. (*Michaux.*) Newfoundland. (*Pylaie.*) Coast of Labrador and Dartmouth Hills, N.S. (*McGill Coll. Herb.*) Chipman and Gondola Point, N.B. (*Wetmore.*) Marshes along the base of the Porcupine Mountain, head of Lake Winnipegoosis, Lat. 53°. (*Macoun.*) Knee Lake, Nelson River, near Hudson Bay. (*R. Bell.*)

(930.) **L. oblongifolia,** Hook. Swamp Honeysuckle.

Cedar and tamarac swamps; rare. Lake Memphremagog, Q. (*Burgess.*) Montreal Island, Q. (*Goldie.*) Recollet swamp, five miles from Montreal. (*McRae.*) Near Heck's Mills, vicinity of Prescott, Ont. (*Billings.*) Swamps in Hastings and Northumberland Counties; vicinity of Owen Sound, Ont.; and Dawson Road, west of Port Arthur, Lake Superior. (*Macoun.*) Lake Winnipeg. (*Drummond.*)

(931.) **L. Tartarica,** Linn. Garden Fly Honeysuckle.

Escaped from gardens and growing from seed at Belleville, Ont. (*Macoun.*) Apparently naturalised at Hamilton, Ont. (*Buchan.*) Spontaneous near Fort Erie, Ont. (*David F. Day.*) Escaped from gardens and growing from seeds at Ottawa and New Edinburgh. (*Fletcher.*)

250. DIERVILLA, Tourn. (BUSH-HONEYSUCKLE.)

(932.) **D. trifida,** Mœnch.

D. Tournefortii, Michx. Fl. I., 107.
D. lutea, Pursh, Fl. I., 162.
D. humilis, Pers. Holmes Herb. McGill College.
D. Canadensis. Willd. Hook. Fl. I., 281.

Dry rocky fields along fences, in dry thickets and along the gravelly

banks of rivers. Common from Anticosti, Nova Scotia, and New Brunswick to the western part of Ontario, thence westward to Red Deer River, Lat. 53°. (*Macoun.*) From Hudson Bay to the Rocky Mountains. (*Hooker.*)

251. Triosteum, Linn. (HORSE-GENTIAN.)

(933.) **T. perfoliatum,** Linn. Fever-wort.

T. majus, Michx. Fl. I., 107.

Damp low grounds along brooks and in river valleys. Papineau Woods, near Montreal. (*Holmes.*) Rich low woods Montreal and St. Therese, Q. (*Brunet.*) Chelsea, Q., near Ottawa. (*Billings.*) Vicinity of Ottawa and westward throughout Ontario to the Georgian Bay, not uncommon.

XLIX. RUBIACEÆ. Madder Family.

252. CEPHALANTHUS, Linn. (BUTTON-BUSH.)

(934.) **C. occidentalis,** Linn. Button-bush.

Muddy borders of rivers and lakes, common. Lake St. Pierre, Q. (*Brunet.*) Gregory's Meadows, near Montreal. (*Holmes.*) St. Andrews, Brome Lake, Knowlton and Lake Commandant, Q. (*McGill Coll. Herb.*) Common in Ontario, extending west to the Sault Ste. Marie.

253. HOUSTONIA, Linn. (HOUSTONIA.)

(935.) **H. purpurea,** Linn. Var. **ciliolata,** Gray.

Hedyotis ciliolata, Hook. Fl. I., 286.

On rocky places, especially limestone, along or near rivers and lakes, apparently rare. Very abundant in rocky woods along the Bay of Quinte at Belleville; shore of Chicken Bay, Lake Huron. (*Macoun.*) Niagara River, at the Whirlpool and above. (*Maclagan & Day.*) Vicinity of Paris, Ont. (*Logie.*)

Var. **longifolia,** Gray.

Hedyotis longifolia, Hook. Fl. I., 286.
Houstonia angustifolia, Pursh Fl. I., 106.
H. tenuifolia, Nutt. Dawson Bound, Rep. 362.

Not uncommon on gravelly soil. Strathroy, Ont. Norway House, Lake Winnipeg. (*McGill Coll. Herb.*) Lake of the Woods. (*Dawson.*) Lake of the Woods and mouth of Rainy River; along the Assiniboine River, both above and below Brandon, Man.; also western end of Moose Mountain, N.W.T. (*Macoun.*) On Moose Mountain Creek, 15 miles south-west of Moose Mountain. (*J. M. Macoun in C. P. R. Coll.*)

(936.) **H. cærulea,** Linn. Bluets.

Oldenlandia cærulea, Gray Man. 2nd Ed.
Hedyotis cærulea, Hook. Fl. I., 286, var. *a.*

Rocky or sandy fields and thickets usually along the coast. Very abundant at Point Pleasant and the North West Arm, Halifax, N.S.; sandy fields Kingston, Annapolis Valley, N.S. (*Macoun.*) Very abundant in St. John Co. Have not noticed it farther north. In moist grassy places. On the sea shore at Rothesay, N.B. (*Fowler's Cat.*) St. Hyacinthe, Richmond, and along the River St. Francis, Q. (*Brunet.*) Nicolet, Q. (*Maclagan.*) About Quebec. (*Hooker.*)

Var. *β.* **minor,** Torr. & Gray.

Hedyotis cærulea, L. var. *β.*
Houstonia Linnæi β. minor, Michx. Fl. I., 85.

Fort William on Lake Superior. (*Richardson.*) Not noticed by later explorers.

254. MITCHELLA, Linn. (PARTRIDGE-BERRY.)

(937.) **M. repens,** Linn.

Under evergreens and other trees from Nova Scotia and New Brunswick westward to the Georgian Bay. A beautiful little plant whether in fruit or flower.

255. GALIUM, Linn. (CLEAVERS. BEDSTRAW.)

(938.) **G. Aparine,** Linn. Goose-grass.

In cultivated ground and on borders of woods, also along gravelly beaches. Introduced in ballast at Carleton, N.B. (*Fowler's Cat.*) On

ballast heaps at North Sydney, Cape Breton, and at Pictou, N.S. (Introduced.) Very abundant along the beach above Becscie River, Anticosti. (*Macoun.*) Saint Croix, near Quebec, in gardens. (*Brunet.*) Mountain side, Hamilton, Ont. (*Logie.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) London, Ont. (*Burgess.*) Gardens and fields near Belleville; also at Owen Sound, Ont.; vicinity of Victoria, Vancouver Island. (*Macoun.*) Sitka and Ounalashka. (*Roth. Alask.*)

(939.) **G. asprellum,** Michx. Rough Bedstraw.

Climbing over bushes along streams in meadows or open woods, Windsor, N.S. (*How.*) Truro, N.S., and Whycocomagh, Cape Breton; also along the Gaspé coast. (*Macoun.*) Common in low woods, N.B. (*Fowler's Cat.*) Very common in Quebec, and extending westward through Ontario to the Kaministiquia River west of Lake Superior. (*Macoun.*)

(940.) **G. Mollugo,** Linn. Narrow-leaved Bedstraw.

Introduced in ballast at Richibucto, N.B. (*Fowler's Cat.*) In cultivated fields, Truemansville, N.S. (*Trueman.*)

(941.) **G. trifidum,** Linn. Small Bedstraw.

G. Claytoni, Hook. Fl. I., 288.

Under several forms this species extends from the Atlantic to the Pacific and north to Lat. 68°. The leading varieties are as follows:—

Var. **pusillum,** Gray.

In swamps and cold bogs. Bog at Ellis Bay, Anticosti. (*Macoun.*) Abundant in spagnous swamps. N.B. (*Fowler's Cat.*) Dawson Road, west of Port Arthur. (*Burgess.*)

Var. **tinctorium,** Torr. & Gray.

G. tinctorium, Linn. Hook. Fl. I., 288.

In boggy and wet open woods amongst bushes. Newfoundland. (*Morrison.*) Quite common in Nova Scotia, especially around Annapolis; also common along the Gaspé coast. (*Macoun.*) Frequent in Quebec. (*McGill Coll. Herb.*) In swampy woods, Muskoka, Ont. (*Burgess.*) Straits of De Fuca, north-west coast. (*Scouler.*)

Var. **latifolium,** Torr.

G. obtusum, Bigel, & *G. strictum*, Holmes Coll. McGill College.

Generally in wet marshy woods, easily known by its broad leaves and widely branching stems. Portland, N.B. (*Matthews.*) St. Andrew's

and Montreal Mountain. (*McGill Coll. Herb.*) Marshes in the vicinity of Belleville, and along the line of the Canada Southern Railway, west of St. Thomas, Ont. (*Macoun.*) Vicinity of London, Ont, (*Burgess.*)

Var. **bifolium,** Macoun.

A tall-growing lax form with all the leaves opposite and tapering at the base into a petiole; margins and midrib very slightly retrorsely hispid; flowers, numerous, in corymbs, with the parts in fours. This form approaches *var. tinctorium*, but is quite distinct, being constantly two leaved and having larger and more widely spreading flowers. Collected on Amherst Island, one of the Magdalens, in the Gulf of St. Lawrence, by Mr. James Richardson, August 7th, 1879.

(942.) **G. triflorum,** Michx. Three-flowered Galium.

G. brachiatum, Pursh, Fl. I., 103.

Abundant in cool woods, from the Atlantic to the Pacific, and north to Lat. 58° on the Peace River. The British Columbian specimens are remarkable for having the sweet scent of the European *Asperula odorata*, when drying.

(943.) **G. Aparine,** Linn. Var. **Vaillantii,** Koch.

On ledges, in a deep cañon, below the bridge on Elk River, west of the Crow Nest Pass, Rocky Mountains. Alt. 3,000 feet. (*Dawson.*)

(944.) **G. pilosum,** Ait. Hairy Galium.

Sandy or dry open woods, south-western Ontario. Vicinity of Queenston and on sand at the southern extremity of Point Pelee, Lake Erie. (*Macoun.*) Malden, Ont. (*Maclagan.*)

(945.) **G. circæzans,** Michx. Wild Liquorice.

Dry open woods, rather rare. Island of Orleans, Q. (*Thomas.*) Rich woods at Quebec and St. Charles, Q. (*Brunet.*) Montreal Mountain. (*Holmes.*) Vicinity of Kemptville, Ont. (*McGill Coll. Herb.*) Woods near Ottawa. (*Fletcher Fl. Ott.*) Mirwin's Wood's, near Prescott, Ont. (*Billings.*) Kingston and St. Catharines. (*Maclagan.*) Rocky woods, near Picton, and in Seymour, Northumberland Co., Ont.; also Queenston Heights. (*Macoun.*) Vicinity of London, Ont. (*Burgess.*)

(946.) **G. lanceolatum,** Torr. Wild Liquorice.

G. circæzans, β. lanceolatum, Torr. & Gray Fl. II., 24.

Rocky woods, rather rare. Vicinity of Quebec. (*Shepperd.*) St

Andrews and Belœil Mountain, Q. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) At Mirwin's Woods, near Prescott, Ont. (*Billings.*) Woods near Belleville; woods Seymour, Northumberland Co., and on the Rice Lake Plains, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) At the Whirlpool, Niagara River. (*Maclagan.*) Vicinity of London. (*Burgess.*)

(947.) **G. Kamtschaticum,** Steller.

G. circæzans, var. *montanum*, Torr. & Gray Fl. II., 24.

Mountain woods on the upper slopes of Mount Albert, Shickshock Mountains, Gaspé, Q. (*Macoun.*) In woods near the northern end of Cape Breton Island. (*McKay.*)

(948.) **G. boreale,** Linn. Northern Bedstraw.

G. septentrionale, Richards. in Frankl. Journ. 4.
G. Bermudianum, Muhl. Holmes Herb. McGill College.
G. strictum, Torr. Holmes Herb. McGill College.

In gravelly or rocky thickets from Quebec westward. Vicinity of Montreal. (*Holmes.*) Common throughout Ontario and westward to the Pacific Coast, extending northward to Lat. 68°. It is very remarkable that this species, although northern and European, is not found in the Eastern Provinces, except at Montreal. This plant varies so much that none of the descriptions are constantly applicable, though all forms are clearly referable to a single species. Rocky Mountain specimens are scabrous above with very hairy fruit and the dried leaves almost revolute and very obtuse.

(949.) **G. rubioides,** Linn. Hook. Fl. I., 289.

I believe this to be an extreme form of *G. boreale*, but I prefer to classify the broad leaved forms under *G. rubioides*. The leaves of these are ciliate on the margins and hairy on the veins beneath, thin and perfectly flat. Grassy thickets near Belleville, Ont. (*Macoun.*) Qualcho Lake, B.C. (*Dawson.*) Abundant on dry elevated soils under the shade of solitary pines, in the Valley of the Columbia. (*Douglas.*) Kotzetbue Sound. (*Lay & Collie.*)

(950.) **G. verum,** Linn. Yellow Bedstraw.

On waste grounds. Scarcely naturalized. Township of Gloucester, two miles from Ottawa. (*R. B. Whyte.*) Vicinity of Hamilton, Ont. (*Buchan.*)

256. SHERARDIA, Linn. (BLUE FIELD-MADDER.)

(951.) **S. arvensis,** Linn.

Introduced in one or two places. Tatamagouche, Colchester Co., N.S. (*McKay.*) Roadsides and waste places, Ottawa. Gathered two years in succession. (*Ami.*) In Parkdale on the Gwynne Estate near Toronto. (*Fowler.*)

L. VALERIANACEÆ. VALERIAN FAMILY.

257. VALERIANA, Linn. (VALERIAN.)

(952.) **V. dioica,** Linn, var. **sylvatica,** Watson. Marsh Valerian.

V. sylvatica, Rich. Hook. Fl. I., 281.

Swamps, marshes and wet meadows by brooks. Newfoundland. (*Banks.*) On Clear Water River, north of Methy road. (*Richardson.*) Prairies of the Rocky Mountains about Lat. 54°. (*Drummond.*) Bogs along the shore of Lesser Slave Lake and on the road between it and Peace River. (*Macoun.*) Rocky Mountains, South Kootanie Pass. (*Dawson.*) Norton Sound. (*Rothr. Alask.*) Cariboo, B.C. *Cowley.*

Var. **uliginosa,** Torr. & Gray Fl. II., 47.

In swamps and peaty bogs. Leaves ciliate particularly on the petioles and stems, pubescent generally in one line. Not common at Rivière du Loup, Q. (*Thomas.*) Jupiter River, Anticosti; tamarac swamps at Belleville, Ont.; swampy meadows and bogs, Peterboro' and Victoria Co's., Ont.; swampy meadow, Quesnel, B.C. (*Macoun.*)

(953.) **V. capitata,** Willd. Hook. Fl. I., 292.

Cool woods and by brooks, generally in the mountains. Eastern summit of North Kootanie Pass and Crow Nest Pass, east of summit, Lat. 49° 30'. Tsi-tsutl Mountains, B.C. (*Dawson.*) Arctic shores, between the Coppermine and Mackenzie Rivers. (*Richardson.*) Kotzebue Sound to Cape Lisburne; Sitka; Point Barrow to Mackenzie River. (*Rothr. Alask.*)

Var. **Hookeri,** Torr. & Gray Fl. II., 48.

V. pauciflora, Hook. Fl., 291.

By brooks and in cool mountain woods. Woods in the Rocky Mountains north of the Smoky River, about Lat. 56°. (*Drummond.*) South Kootanie Pass; eastern side of Crow Nest Pass and on the Flathead River, Rocky Mountains. (*Dawson.*) Vicinity of Yale, B.C. (*Macoun.*) Vancouver Island, near Nanaimo. (*J. Richardson.*)

(954.) **V. edulis,** Nutt.

V. ciliata, Torr. & Gray Fl. II., 49.
Patrinia longifolia, MacNab in Edinb. Phil. Journ., 19.
Patrinia ceratophylla, Hook. Fl. I., 290.

Rich low grounds along the Maitland River, near Goderich, Ont., 1834. (*MacNab.*) Valley of the Bayfield River, Lake Huron. (*Gibson.*) Flats of the River Thames, near London, Ont. (*Burgess.*) Valleys of the Rocky Mountains within British Columbia. [?] (*Douglas.*)

258. PLECTRITIS, DC.

(955.) **P. congesta,** DC.

Abundant on grassy open places around Victoria, Vancouver Island. (*Macoun & Fletcher.*) Queen Charlotte Islands. (*Dawson.*)

259. FEDIA, Mœnch. (CORN-SALAD.)

(956.) **F. olitoria,** Vahl.

Sparingly introduced along Lake Erie. Near Port Colborne, Ont. (*David F. Day.*) Malden, Ont. (*Maclagan.*)

LI. DIPSACEÆ. Teasel Family.

260. DIPSACUS, Linn. (TEASEL.)

(957.) **D. sylvestris,** Mill. Wild Teasel.

Introduced. Very abundant where found, but local. Along roadsides, frequent in the counties of Prince Edward, Hastings and North-

umberland, Ont. (*Macoun.*) Niagara Falls and vicinity of London, Ont. (*Burgess.*) Port Dover, Ont. (*Millman.*) North Pelham, Ont. (*McGill Coll. Herb.*) Hamilton, Ont. (*Fletcher.*)

LII. COMPOSITÆ. Composite Family.

261. VERNONIA, Schreb. (IRON-WEED.)

(958.) **V. Noveboracensis,** Willd.

V. prœalta, Hook. Fl. I., 304.

Fields and roadsides south-western Ontario. Canada. (*Pursh.*) Close to the railway station at Essex Centre, Ont. (*Macoun.*) Malden, Ont. (*Maclagan.*)

262. EUPATORIUM, Linn. (THOROUGH-WORT.)

(959.) **E. purpureum,** Linn. Joe-Pye Weed.

E. maculatum, Hook. Fl. I., 305.
E. punctatum, Willd. Pursh Fl. II., 515.
E. amœnum, Pursh Fl. II., 514.
E. falcatum, Michx. Fl. II., 99.

Low meadows along streams and in river valleys. Extending from Anticosti, Nova Scotia and New Brunswick westward to the Rocky Mountains and northward to the Clear Water River. Lat. 57°. (*Macoun.*) Ladner's Landing, B.C. (*Fletcher.*)

(960.) **E. perfoliatum,** Linn. Boneset.

Low meadows and along small streams, quite common. Nova Scotia and New Brunswick. Extending to the Lake of the Woods. (*Dawson.*)

(961.) **E. ageratoides,** Linn. White Snake-root.

E. urticæfolium, Riech. Michx. Fl. II., 100.

Rich soil in damp woods, abundant in Ontario. In rich soil on the banks of the Restigouche, N.B. (*Fowler's Cat.*) Common in Quebec and Ontario, extending to Owen Sound. (*Macoun.*)

Excluded Species.

E. rotundifolium, Linn.

This species is credited to Canada by Pursh and Goldie in Hooker Fl. I. 304. Gray says it extends from Rhode Island to Virginia along the coast.

263. MIKANIA, Willd. (CLIMBING HEMP-WEED.)

(962.) **M. scandens,** Linn.

Eupatorium scandens, Linn. Michx. Fl. II., 97.

Moist shady places along streams, western Ontario. Malden. Ont. (*Maclagan.*)

264. BRICKELLIA, Ell.

(963.) **B. oblongifolia,** Nutt.

On mountain slopes along the southern boundary of British Columbia. (*Lyall.*)

(964.) **B. grandiflora,** Nutt.

Eupatorium (?) *grandiflorum,* Hook. Fl. II., 26.

Rocky banks of streams in the Rocky Mountains. South Kootanie Pass. 49th parallel. (*Dawson.*)

265. LIATRIS, Schreb. (BUTTON SNAKE-ROOT.)

(965.) **L. cylindracea,** Michx. Blazing Star.

L. spicata, Willd. in Saunders' List of London Plants.
L. squarrosa, Willd. Hook. Fl. I., 306.

Dry, sandy or gravelly soil throughout western Ontario. On sandy soil Rice Lake Plains, also abundant at Castleton, Ont. (*Macoun.*) Common at London in the cemetery, and at Cove, also at Amherstburgh, Ont. (*Saunders & Burgess.*) Anderton, Ont. (*Maclagan.*) Vicinity of Hamilton, Ont. (*Logie.*) Port Francis, Sable River, Lake Huron. (*Ami.*) East side of La Cloche Island, Georgian Bay, rocky prairie land. (*J. Bell.*)

(966.) **L. scariosa,** Willd. Blazing Star.

L. squarrulosa, Michx. Fl. II., 92.

Very common on some parts of the western prairie region, especially along the borders of ponds and marshes. This is a very beautiful plant and one well worthy of cultivation. (*Macoun.*) Malden and Sandwich, Ont. (*Maclagan.*) The preceding species is probably meant here.

(967.) **L. punctata,** Hook.

Much more abundant than the preceding, and extending from the Lake of the Woods (*Macoun*) to the foot-hills of the Rocky Mountains. (*Dawson.*) This species prefers dry gravelly soil in the east, but westward it grows on any dry soil. (*Macoun.*) On the Saskatchewan Plains and on the Red Deer and Eagle Hills, on dry soils. (*Douglas.*)

266. GUTIERREZIA, Lagasca.

(968.) **G. Euthamiæ,** Torr. & Gray Fl. II., 193.

Brachyris Euthamiæ, Nutt. Hook. Fl. II., 23.
Solidago Sarothræ, Pursh Fl. II., 540.
S. tenuifolia, Pursh. Dawson Bound. Rep. 366.

Very abundant on much of the dry open prairie, and especially so in and around the Cypress Hills. (*Macoun.*) High grounds of the Saskatchewan and Red Rivers. (*Douglas.*) From Turtle Mountain westward along the 49th parallel. Represents *Solidago lanceolata* on the dry open plains. Stems often many together from a woody caudex, rarely attaining a height greater than eight inches. (*Dawson.*)

267. GRINDELIA, Willd.

(969.) **G. squarrosa,** Dunal.

Donia squarrosa, Pursh Fl. II., 559.

Very abundant on saline soil around ponds and in brackish marshy places extending from the eastern border of the prairie region through the Rocky Mountains to the Fraser River in British Columbia. (*Macoun.*) Woody country, Lat. 54–64. (*Richardson.*) Abundant on the banks of the Saskatchewan, between Carlton and Edmonton. (*Drummond.*) Plains of the Red River and valleys of the Rocky Mountains, on the east side. (*Douglas.*) From the Souris to the Milk River on the 49th parallel; also on the Chilcoten River, B. C. (*Dawson.*)

(970.) **C. integrifolia,** DC.

Donia glutinosa, Hook. Fl. II, 25.

Common along the seashore at the race course near Victoria, Vancouver Island. (*Macoun.*) Queen Charlotte Islands. (*Dawson.*) Nutka. (*Scouler.*)

(971.) **C. stricta,** DC.

In the Botany of California this and the preceding species are united, but at present I prefer to keep them separate, as in our specimens they appear to be distinct. Queen Charlotte Islands. (*Dawson.*) Along the coast at Victoria, Vancouver Island. (*Fletcher.*)

268. CHRYSOPSIS, Nutt.

(972.) **C. villosa,** Nutt.

Amellus villosus, Pursh Fl. II., 564.
Diplopappus villosus, Hook. Fl. II., 22.

Dry gravelly soil throughout the prairie region and extending north-westward to the Peace River prairies, particularly abundant at the north-west end of Lesser Slave Lake. (*Macoun.*) Common on the Red Deer and Eagle Hills of the North Saskatchewan and banks of the Assiniboine River; also on the low hills west of the Rocky Mountains, to the Pacific Ocean, on dry, rocky or sandy soil. (*Douglas.*) Rising ground east of Red River prairie, Turtle Mountain, open prairie, and westward on the 49th parallel; also Milk River Ridge, and on dry slopes to Flathead River, B.C. (*Dawson.*)

Var. **hispida,** Gray.

Diplopappus hispidus, Hook. Fl. II., 22.
Chrysopsis hispida, Torr. & Gray Fl. II., 255.
C. hirsuta, Macoun's Cat., No. 940.

On dry gravelly soil rather rare. At Fort Carlton, on the Saskatchewan. (*Richardson.*) Cypress Hills and near the Hand Hills, N.W.T.; a resinous glandular form covered, on stem and leaves, with long white hairs was collected at "Limestone Point," near Câche Creek, B.C. (*Macoun & Fletcher.*) Abundant on the Missouri Côteau, and at Wood Mountain, 49th parallel. (*Dawson.*)

269. HAPLOPAPPUS, Cass.

(973.) **H. spinulosus,** DC.

Aplopappus spinulosus, DC. Macoun's Cat., No. 932.
Amellus spinulosus, Pursh Fl. II., 564.
Diplopappus pinnatifidus, Hook. Fl. II., 22.

Abundant on the dry prairie from Moose Mountain westward and

north-westward to Edmonton. (*Macoun.*) Turtle Mountain and westward to the Rocky Mountains on dry prairie, 49th parallel. (*Dawson.*) Rocky Mountains, near Jasper's Lake, Lat. 54°. (*Drummond.*)

(974.) **H. lanceolatus,** Torr. & Gray.

Aplopappus lanceolus, Torr. & Gray. Macoun's Cat., No. 931.
Donia lanceolata, Hook. Fl. II., 25.

On saline marshy prairie, not uncommon, from Manitoba westward to the base of the Rocky Mountains. (*Macoun.*) Saskatchewan River between Carlton and Edmonton. (*Drummond.*) First branch of Milk River on the 49th parallel. (*Dawson.*)

(975.) **H. uniflorus,** Torr. & Gray.

Aplopappus uniflorus, Torr. & Gray. Macoun's Cat., No. 933.
Donia uniflora, Hook. Fl. II., 25.

Plains of the Saskatchewan and prairies of the Rocky Mountains. (*Drummond.*) We are unacquainted with this species.

(976.) **H. Nuttallii,** Torr. & Gray.

Aplopappus Nuttallii, Torr. & Gray. Macoun's Cat., No. 934.

On dry clay, or gravelly banks, not common. On gravel ridges west of Moose Mountain; at the eastern end of the Cypress Hills, and the Elbow of the South Saskatchewan, N. W. T. (*Macoun.*) Dry bank at the Crossing of the White Mud River or Frenchman's Creek, 49th parallel. (*Dawson.*) On the Saskatchewan. (*Bourgeau.*)

(977.) **H. acaulis,** Gray, Var. **glabratus,** Watson.

Aplopappus acaulis, Gray, var. Macoun's Cat., No. 935.
Aplopappus, Sp. I. Dawson Bound. Rep. 363.
Stenotus caespitosus, Nutt. Torr. & Gray Fl. II., 238.

On dry clay, or gravel cliffs or ridges. Elbow of South Saskatchewan and on the eastern end of the Cypress Hills, highest point of ridge. (*Macoun.*) Short Creek, Souris River, 49th parallel, growing in dense tufts. (*Dawson.*)

270. BIGELOVIA, DC.

(978.) **B. graveolens,** Gray. Var. **hololeuca,** Gray.

Linosyris graveolens, var. *β*. Torr. & Gray. Macoun's Cat., No. 929.
L. Howardii, Parry. Dawson Bound. Rep., 365.
Chrysocoma nauseosa, Pursh Fl. II., 517, in part.

On denuded and alkaline soil that is very arid. Banks of Cottonwood Creek, 18 miles south of Fort Walsh; also, on an arid tract southeast of Island Lake, near Medicine Hat, N.W.T. (*Macoun.*) Second

Branch of Milk River on the 49th parallel; also, on the Chilcoten River, west of the Fraser River, B.C. (*Dawson.*)

(979.) **B. Douglasii,** Gray.

Linosyris viscidiflora, Torr. & Gray. Macoun's Cat., No. 930.
Crinitaria viscidiflora, Hook. Fl. II., 24.
Bigelovia viscidiflora, DC. Prodr. VII., 279.

Barrren or arid soil. In the upper valley of the Columbia within British Columbia. (*Douglas.*) On arid soil near Câche Creek, B.C. (*Macoun & Fletcher.*)

271. SOLIDAGO, Linn. (GOLDEN-ROD.)

(980.) **S. squarrosa,** Muhl.

In woods and thickets and on rocky banks of rivers. Restigouche, N.B. (*Chalmers.*) Kouchibouguac, N.B. (*Fowler's Cat.*) Andover, Victoria, Co., N. B. (*Wetmore.*) Common throughout Quebec and Ontario, especially in the northern part of the latter province. Lake Mistassini. (*J. Richardson.*)

(981.) **S. cæsia,** Linn.

In rich woods near Billings Bridge, Ottawa. (*Miss I. Grant.*) These are the only specimens of the normal form I have seen.

Var. **axillaris,** Gray.

S. axillaris, Pursh Fl. II., 542.
S. flexicaulis, Hook. Fl. II., 4.

Moist, rich woodlands, and slopes of ravines in open woods. Halifax, N.S. (*Sommers.*) North Mountain woods near Annapolis, N.S. (*Macoun.*) Côté St. Paul, near Montreal. (*Holmes.*) Beleil Mountain, Q. (*Maclagan.*) Rather common throughout Ontario and extending westward to Owen Sound. (*Macoun.*)

(982.) **S. latifolia,** Linn.

S. flexicaulis, Linn, var. *latifolia,* Hook. Fl. II., 5.

Moist shaded banks in woods and borders of ravines. Common from Nova Scotia and New Brunswick throughout Quebec and Ontario to the Georgian Bay.

(983.) **S. bicolor,** Linn.

Dry thickets and river banks and old fields, rather common. Nova Scotia, New Brunswick, Ontario, and westward to the Saskatchewan, also Red Deer River, Lat. 53°. (*Macoun.*).

Var. **concolor,** Torr. & Gray.

River banks and along the sea coast. Pictou, N. S. (*McKay.*) Tatagouche River, Gloucester Co., N.B. (*Chalmers.*) Banks of Jupiter River, Anticosti ; Rivière Ste. Anne des Monts, Gaspé ; and rocky woods along Partridge Lake, Addington Co., Ont. (*Macoun.*) Below Quebec. (*Maclagan.*) The commoner form around Ottawa. (*Fletcher Fl. Ott.*) Kingston, Ont. (*Burgess.*)

Var. **lanata,** Gray.

S. lanata, Hook. Fl. II., 4.

Plains of the Saskatchewan, near the Rocky Mountains. (*Drummond.*)

(984.) **S. macrophylla,** Pursh.

S. thyrsoidea, E. Meyer. Gray, Man. Ed. V., 241. Macoun's Cat., No. 927.
S. leiocarpa, DC. Prodr. V., 339.
S. Virgaurea, Pursh Fl. II., 542.

Mountain woods, and farther north along streams. Labrador. (*McGill Coll. Herb.*) Beside a densely shaded brook, Bass River, N.B. (*Fowler's Cat.*) Campbellton. N.B. (*Chalmers.*) Very abundant in open spruce woods, Anticosti ; brook sides Pirate's Cove, Straits of Canso, in a ravine at Whycocomagh, Cape Breton. Very common on the Gaspé peninsula and up the sides of the Shickshock Mountains ; Michipicoten Island at the wooding station, Lake Superior. (*Macoun.*) Lake Mistassini, Q. (*J. Richardson.*) A form with almost sessile leaves and large, axillary spikes of flowers, collected at Tail Creek, on the Red Deer River, Long. 113° west, is doubtfully referred to this species. (*Macoun.*)

(985.) **S. multiradiata,** Ait.

S. Virgaurea, var. *multiradiata,* Torr. & Gray Fl. II., 207.

On mountains or along the shores of the Gulf of St. Lawrence. Labrador. (*Morrison.*) Bow River Pass, Rocky Mountains, Lat. 51°. (*Macoun.*) Prairies of the Rocky Mountains, Lat. 54°–56°. (*Drummond.*) Mackenzie River and Bear Lake. (*Richardson.*) Bay of Eschscholtz. (*Chamisso.*) Fort Youcon, Alaska. (*Dall.*) Bartlett's Bay, Alaska. (*Meehan.*) An imperfect specimen obtained by Dr. R. Bell at York Factory, Hudson Bay, is referred here.

Var. **scopulorum,** Gray.

S. corymbosa, Nutt. Macoun's Cat., No. 905.

South Kootanie Pass, 7,000 feet alt., and on the north branch of the Old Man River within the Rocky Mountains ; also on Dean or Salmon River, near Salmon House, B.C. (*Dawson.*)

(986.) **S. Virgaurea,** Linn, var. **alpina,** Bigel.

S. Virgaurea, Hook. Fl. II., 5.

Summit of Mount Albert, Shickshock Mountains, Gaspé. (*Macoun.*) Torrey & Gray and Hooker give many localities for the above three forms, but it is very likely that the more arctic and alpine are all referable to *S. multiradiata* and its variety *scopulorum.* The Lake Superior specimens referred to this form evidently belong to the next.

(987.) **S. humilis,** Pursh, not Desf.

On rocky shores of the ocean and lakes; frequent northward. Fort Albany, Hudson Bay, and Newfoundland. (*Herb. Banks.*) Ungava, Hudson Strait, coast of Labrador. (*McGill Coll. Herb.*) South-West Point, and mouth of Jupiter River, Anticosti. Bake-apple Bog, Sydney Mines, Cape Breton. North shore of Lake Superior above Michipicotin. (*Macoun.*) In the country north-east of Lake Superior, and on Gros Cap on the shore of the lake. (*R. Bell.*) Wooded country between Lat. 54°–64°. (*Richardson.*)

Var. *β.,* Torr. & Gray Fl. II., 206.

S. stricta, Hook. Fl. II., 4, in part.

Abundant on the prairie, more especially northward and westward, to the base of the Rocky Mountains. (*Macoun.*) Fort Carlton on the Saskatchewan. (*Drummond.*) Wooded country between Lat. 54°–64°. (*Richardson.*) Turtle Mountain, 49th parallel, N.W.T., Sand Creek, in the Kootanie Valley; and, on the Chilcoten River, west of the Fraser, B.C. (*Dawson.*)

(988.) **S. confertiflora,** DC.

S. glutinosa, Nutt. Trans. Amer. Phil. Soc. (N. series) VII., 328.

Nootka and Mulgrave Sound. (*De Candolle.*) Along the Fraser and Thompson rivers at Lytton and Spence's Bridge, B. C. (*Fletcher.*) Ounalashka, Cape Mulgrave and Kodiak. (*Rothr. Alask.*)

(989.) **S. sempervirens,** Linn.

Salt marshes along the coast of New Brunswick, rather common. (*Fowler's Cat.*) Halifax, Pictou, and Truro, and doubtless common around the coasts of Nova Scotia. Frequent along the Bay of Chaleur and up the Gaspé Coast to Petit Metis. (*Macoun.*)

(990.) **S. puberula,** Nutt.

Dry sandy soil, common in New Brunswick. (*Fowler's Cat.*) St. Stephen, N.B. (*Vroom.*)

(991.) **S. odora,** Ait. Sweet Golden-rod.

S. retrorsa, Michx. Fl. II., 3.

Borders of thickets in dry or sandy soil. Near Grand Lake, N.S. (*Sommers.*) Fields near Hamilton, Ont. (*Logie.*) I have never seen a Canadian specimen of this species and am doubtful of its occurrence within our limits. (*Macoun.*)

(992.) **S. uliginosa,** Nutt. Swamp Golden-rod.

S. stricta, Hook. Fl. II., 4, in part. Macoun's Cat., No. 909.
S. stricta, Torr. & Gray Fl. II., 204, not Ait.

Sphagnum swamps and tamarack bogs. Newfoundland, Anticosti, Nova Scotia, New Brunswick and thence westward to and beyond the Rocky Mountains in the wooded country.

(993.) **S. speciosa,** Nutt.

S. sempervirens, Michx. Fl. II., 119, not of Linn.

Borders of woods, near Pictou, N.S. (*McKay.*) St. Stephen, N.B. (*Vroom.*) To be looked for in the Maritime provinces. It is probable that this species is often referred to the preceding one.

(994.) **S. patula,** Muhl.

S. asperata, Pursh Fl. II., 538.

Swamps, meadows, and moist woods. Canada. (*Herb. Banks, Hooker & Pursh.*) Swamps in the vicinity of London, Ont. (*Burgess.*)

(995.) **S. rugosa,** Mill.

S. altissima, Hook. Fl. II., 2. Macoun's Cat., No. 916.
S. altissima, var. *β.* Torr. & Gray Fl. II., 216.
S. villosa, Pursh Fl. II., 537. Hook. Fl. II., 2.

Common in meadows, thickets and open woods and on the borders of fields and roads. Border of fields near Pictou, N.S. (*McKay.*) Halifax, N.S. (*Sommers.*) New Brunswick. (*Fowler's Cat.*) Common in Quebec and Ontario and extending to Thunder Bay, Lake Superior.

(996.) **S. neglecta,** Torr. & Gray Fl. II., 213.

In swamps and wet beaver-meadows. St. John Co., N.B. (*Hay.*) Swamps in the northern part of Hastings and Northumberland Counties, Ont. (*Macoun.*) Steep gravelly banks. Niagara Falls. (*Burgess.*) Damp wooded banks of the Gatineau at Ironsides, Q. (*Fletcher.*)

(997.) **S. Terræ-Novæ,** Torr. & Gray Fl. II., 206.

In bogs, Newfoundland. (*Pylaie.*) Specimens obtained at Salt Lake, Anticosti, in August, 1883, may belong here. (*Macoun.*) Gray remarks that this species is still insufficiently known.

(998.) **S. arguta,** Ait.

S. Muhlenbergii, Torr. & Gray Fl. II., 214. Macoun's Cat., No. 921.

Borders of thickets and in open pine or sandy woods. Hastings and Northumberland counties, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) St. Catharines and Chippawa, Ont. (*Maclagan.*) Vicinity of London, Ont. (*Burgess.*)

(999.) **S. juncea,** Ait.

S. arguta, Torr. & Gray Fl. II., 214. Macoun's Cat., No. 917.

Common in meadows and fields and in partly cleared land. Woodstock and St. Stephen, N.B. (*Vroom.*) Smithtown, King's Co., N.B. (*Brittain.*) Near St. John, N.B. (*Hay.*) Common throughout Quebec and Ontario, and westward to the Rocky Mountains. (*Macoun.*) Wooded country between Lat. 54°–64°. (*Richardson.*) Our form is principally the variety *scabrella* of Torr. & Gray.

(1000.) **S. Missouriensis,** Nutt.

Dry prairies, not uncommon. Turtle Mountain, Man. (*Dawson.*) Dry prairies of the Assiniboine, Man. (*Douglas.*) Frequent on the prairie west of Fort Ellice to the Rocky Mountains. (*Macoun.*)

Var. **montana,** Gray.

This form is the common one on the Canadian prairies and extends westward to the Rocky Mountain forests. (*Macoun.*) Milk River near the 49th parallel. (*Dawson.*) A broad-leaved form which may be var. *extraria,* Gray, has been gathered near the Hand Hills. (*Macoun.*)

(1001.) **S. serotina,** Ait.

S. gigantea, Torr. & Gray F. II., 225. Macoun's Cat., No. 912.

Borders of woods and in fields eastward, in copse-wood and borders of coulées on the western prairie. Grand Lake, N. S. (*Sommers.*) Pictou, N. S. (*McKay.*) St. John County, N. B. (*Fowler's Cat.*) Vicinity of Ottawa at Billings' Bridge and Hull. (*Fletcher Fl. Ott.*) Rocky bed of the Trent at Heely Falls, Northumberland Co., and in the neighborhood of Belleville, Ont. (*Macoun.*) Niagara district and Malden, Ont. (*Maclagan.*) Near the Three Buttes, and Second Branch of Milk River, 49th parallel, N.W.T. (*Dawson.*) South of Battleford, and in ravines bordering on Bow River. (*Macoun.*) Plains of the Red River. (*Douglas.*) Saskatchewan River. (*Drummond.*)

Var. **gigantea,** Gray.

S. serotina, Torr. & Gray Fl. II., 224. Macoun's Cat., No. 911.

Borders of thickets and low grounds ; common throughout Canada' Newfoundland, Nova Scotia, New Brunswick, and westward to the Pacific; also northward on the Peace River to Lat. 59°. (*Macoun.*)

(1002.) **S. lepida,** DC.

Along the north-west coast to Alaska. (*Gray.*) Queen Charlotte Islands. 1878. (*Dawson.*) Nootka. (*Hœnke.*)

(1003.) **S. elongata,** Nutt.

S. elata, Hook. Fl. II., 5.

S. Canadensis, Hook. Fl. II., 1. As to Arctic specimens.

Arctic America, from Slave Lake to Fort Franklin, on the Mackenzie River. (*Richardson.*) Forms approaching *S. Canadensis* have been collected by myself and Dr. Dawson along the eastern base of the Rocky Mountains and northward to Peace River. (*Macoun.*) Chilcoten River, west of the Fraser, B.C. (*Dawson.*) Straits of De Fuca. (*Scouler.*) Abundant on Vancouver Island and up the Fraser and Thompson rivers, B. C. (*Fletcher.*) Victoria, Vancouver Island. (*Meehan.*)

(1004.) **S. Canadensis,** Linn. Common Golden-rod.

Our commonest Golden-rod extending under one form or another from the Atlantic to the Pacific. North to Fort Franklin on the Mackenzie. (*Richardson.*)

Var. **procera,** Torr. & Gray.

S. procera, Ait. Hook. Fl. II., 2.

Apparently not rare in the Atlantic provinces. Jupiter River, Anticosti. (*Macoun.*) New Brunswick. (*Fowler.*) Canada. (*Pursh.*) Vicinity of Ottawa. (*Fletcher.*) Wooded country between Lat. 54°–64°. (*Richardson.*)

Var. **scabra,** Torr. & Gray.

This form, or one taken for it, is common on the open prairie in the North-west Territory. South-east of Hurricane Hills, and Souris Plain. (*J. M. Macoun C. P. R. Coll.*) Common south of Battleford and around the Hand Hills, and west to Morley. (*Macoun.*)

(1005.) **S. nemoralis,** Ait.

Dry or sterile fields and sandy or gravelly thickets or prairies, common. From Anticosti westward to the Rocky Mountains. The prairie

specimens are generally shorter and mostly with entire leaves, being var. *β.* Torr. & Gray.

Var. **incana,** Gray.

S. incana, Torr. & Gray Fl. II., 221.

Dry, sterile soil from Wood Mountain westward, especially north and west of the Cypress Hills, N. W. T. (*Macoun.*) Wood Mountain and westward along the 49th parallel. (*Burgess.*)

(1006.) **S. rigida,** Linn.

On dry or sandy soil. Islands in the Detroit River. (*Maclagan*) Dry sandy soil, edge of a field, near Fairmount, London, Ont. (*Burgess.*) Very common in the western prairie region extending northward to Peace River, and west to the Rocky Mountains. (*Macoun.*)

(1007.) **S. Ohioensis,** Riddell.

Wet grassy places along the shore of Red Bay, Lake Huron. (*Macoun.*)

(1008.) **S. Houghtonii,** Torr. & Gray.

Swampy shores of Lake Huron around Chicken and Red Bays, and on the Fishing Islands. (*Macoun.*)

(1009.) **S. occidentalis,** Nutt.

S. lanceolata, Hook. Fl. II., 6, in part.

To be looked for along the southern boundary of British Columbia.

(1010.) **S. lanceolata,** Linn.

Very abundant along the shores of lakes and rivers from the Atlantic provinces and the islands in the Gulf of St. Lawrence to the Rocky Mountains and north to Lat. 64°. Quite common on the prairies near pools of water and in the beds of coulées. (*Macoun.*) Western, prairie, specimens have broad lanceolate five-nerved obtuse leaves, and seem to run into *S. occidentalis.*

272. BELLIS, Linn. DAISY.

(1011.) **B. perennis,** Linn. Garden Daisy.

Introduced. On ballast heaps North Sydney, Cape Breton. (*Macoun.*) In lawns at Clifton, Ont. (*David F. Day.*) Apparently at home in meadows and pastures around Victoria, Vancouver Island. (*Macoun & Fletcher.*)

273. TOWNSENDIA, Hook.

(1012.) **T. florifer,** Gray.

Erigeron (?) *florifer,* Hook. Fl. II., 20.
Stenotus florifer, Torr. & Gray Fl. II., 238.

Dry rocky or gravelly soil along the Milk River and on the North Branch of the North Fork of the Old Man River alt., 5,000 feet, N.W.T. (*Dawson.*)

(1013.) **T. sericea,** Hook. Fl. II., 16.

Aster (?) *exscapus,* Richards. in Frankl. Journ., 32.

Vicinity of Fort Carlton on the Saskatchewan. (*Richardson.*) Rare upon the dry banks of the Saskatchewan, and among the Rocky Mountains, Lat. 54°. (*Drummond.*) Rocky Mountains. (*Bourgeau.*)

274. SERICOCARPUS ,Nees. (WHITE-TOPPED ASTER.)

(1014.) **S. solidagineus,** Nees.

Aster solidagineus, Michx. Fl. II., 108.
A. solidaginoides, Pursh Fl. II., 543.

Moist woodlands, Canada. (*Torr. & Gray Fl. II.,* 102.) Near Montreal. (*Cleghorn in Hooker.*) We have no other record of this species and consider its occurrence within our limits very doubtful. (*Macoun.*)

275. ASTER, Linn. (STAR-WORT. ASTER.)

(1015.) **A. tanacetifolius,** HBK.

Machæranthera tanacetifolia, Nees. Hook. Bot. Mag. t. 4624.

On arid soil along the Milk River, near the south-western boundary of the prairie region, rare. (*Dawson.*)

(1016.) **A. canescens,** Pursh.

Machæranthera canescens, Gray. Macoun's Cat., No. 1109.
Dieteria canescens, Nutt. Torr. & Gray Fl. II., 101.

On arid, argillaceous soils in the south-western part of the prairie region. South of Wood Mountain, in dry clay-bottomed valleys, on sub-saline soil. (*Dawson.*) On dry saline soil, where there is little vegetation, around the Hand Hills, and along the Red Deer River to the south of them. (*Macoun.*)

(1017.) **A. corymbosus,** Ait.

Eurybia corymbosa, Cass. Hook. Fl. II., 14.
Biotia corymbosa, DC. Prodr. V., 265.

Rather open woodlands on rich soil; extending from the western part of Quebec to the Kaministiquia River, west of Lake Superior. (*Macoun.*)

(1018.) **A. macrophyllus,** Linn.

Eurybia macrophylla, Hook. Fl. II., 14.
Biotia macrophylla, DC. Prodr. V., 265.

More abundant than the last and with a much wider range and the same habitat. Windsor, N.S. (*How.*) Woods and borders of fields. New Brunswick. (*Fowler's Cat.*) Abundant throughout Quebec and Ontario, and extending west to Norway House at the foot of Lake Winnipeg. (*Richardson.*)

(1019.) **A. radula,** Ait.

Low wet meadows or woods eastward along the coast. Labrador. (*Butler.*) Moist copses and low grounds. Nova Scotia and Newfoundland. (*Aiton.*) In boggy ground at North Sydney, Cape Breton, and in wet meadows at Louisburg, C. B. (*Macoun.*) Wet boggy places, common, N.B. (*Fowler's Cat.*)

Var. **strictus,** Gray.

Aster strictus, Pursh Fl. II., 556, not of Poir.
A. biflorus, Michx. Torr. & Gray Fl. II., 106.

Around lakes; and rivers which flow into Hudson Bay. (*Michaux.*) Labrador. (*Pursh.*) In the valley of Jupiter River, Anticosti. (*Macoun.*) Upper Stewiacke, N.S. (*McGill Coll. Herb.*)

(1020.) **A. montanus,** Richards.

A. Richardsonii, Spreng. Hook. Fl. II., 7.

On gravel bars in river valleys and along the banks of such rivers. Barren country from Lat. 64° to the Arctic Sea. (*Richardson.*) Rocky Mountains. (*Drummond.*) Bow River from below Calgary to the Pass above Morley. Very abundant on Peace River, both above and below Dunvegan. (*Macoun.*) Alpine, Rocky Mountains. (*Bourgeau.*)

Var. **arcticus,** Torr. & Gray.

A. Sibiricus, Fischer in Herb. of Hooker.

Kotzebue Sound, Ounalashka and Point Barrow. (*Rothr Alask.*) Sources of the Youcon. (*McGill Coll. Herb.*) Fort Selkirk, Youcon River, Lat. 62° 45′. (*Schwatka.*)

Var. **giganteus,** Torr. & Gray Fl. II., 107.

A. Richardsonii, β. giganteus, Hook. Fl. II., 7.

About Fort Franklin on the Mackenzie River. (*Richardson.*) Along the Mackenzie River. (*McGill Coll. Herb.*)

(1021.) **A. conspicuus,** Lindl.

Woods and grassy thickets, especially on the Saskatchewan. From Carlton on the Saskatchewan, Lat. 53°, to the Rocky Mountains. (*Drummond.*) Slope of the South Kootanie Pass, Rocky Mountains. (*Dawson.*) Abundant in ravines on the Cypress Hills and in woods and thickets along the eastern base of the Rocky Mountains, extending to the Peace River. (*Macoun.*) Rocky Mountains. (*Bourgeau.*)

(1022.) **A. radulinus,** Gray.

In thickets on the Chilcoten River, west of the Fraser, B.C. (*Dawson.*) On the side of a hill by a spring, Fraser River Crossing of Canadian Pacific Railway, B.C. (*Fletcher.*) These specimens may belong to the preceding, as they are far from being satisfactory.

(1023.) **A. spathulatus,** Lindl.

Arctic America. Bear Lake and Fort Franklin on the Mackenzie River. (*Richardson.*)

(1024.) **A. adscendens,** Lindl.

Dry and grassy places on the western prairies. Banks of the Saskatchewan towards the Rocky Mountains. (*Drummond.*) Milk River near the 49th parallel. (*Dawson.*) Common around the Cypress Hills and on the prairie westward, also west of the Touchwood Hills, by Carlton and Fort Pitt to Edmonton. (*Macoun.*)

(1025.) **A. Douglasii,** Lindl.

Common on the north-west coast and Straits of De Fuca. (*Scouler.*) Queen Charlotte Islands. (*Dawson.*) Vicinity of Victoria and on the mainland at various points on the Fraser and Thompson rivers. (*Fletcher.*) More than one species may be included in this as our western asters are very little known.

(1026). **A. sericeus,** Vent.

A. argenteus, Michx. Fl. II., 111.

Dry banks of rivers. On sandy soil at the mouth of Rainy River, and on islands in the Lake of the Woods. (*Macoun.*)

(1027.) **A. Menziesii,** Lindl. Hook. Fl. II., 12.

North-west Coast of America. (*Menzies.*) We know nothing of this species.

(1028.) **A. patens,** Ait.

Dry soil and along fences. New Brunswick. (*Matthew.*) Vicinity of Hamilton, Ont. (*Logie.*) This is a very doubtful species and needs looking after.

(1029.) **A. lævis,** Linn.

A. amplexicaulis, Willd. Hook. Fl. II., 13.
A. rubricaulis, Lam. Hook. Fl. II., 13.
A. cyaneus, Hoffm. Hook. Fl. II., 13.
A. concinnus, Hooker Fl. II., 13.
A. strictus, Nees, var. *angustifolius,* Lindl. Hook. Fl. II., 13.

In rather dry soil near London, Ont. (*Burgess.*) Very abundant in the prairie region extending from its eastern border to far within the Rocky Mountains and northward to Lat. 58° on the Peace River. (*Macoun.*) From the Saskatchewan to the Rocky Mountains. (*Drummond.*) Abundant along the 49th parallel. (*Dawson.*)

(1030.) **A. lævigatus,** Lam.

A. lævis, Linn. var. *lævigatus,* Willd. Torr. & Gray Fl. II., 116.

Dr. Gray says of this species in the proceedings of the American Academy of Arts and Sciences, Vol. XVII., page 169. "Unequivocal indigenous specimens are hardly known; they are to be sought in Lower Canada and Nova Scotia." A careful examination of the Gaspé peninsula and a large extent of Nova Scotia and Cape Breton by myself, and the examinations of local collectors, show no plant approaching this species except forms that seem to lie between *A. tardiflorus,* L., and *A. longifolius,* Lam. Specimens of an aster which has the appearance of this species have been found at Chicken Bay, Lake Huron. (*Macoun.*) Vicinity of London, Ont. (*Burgess.*) Woods near Barrie, Ont. (*Spotten.*) This is the long-leaved form with almost linear leaves.

Var. —— (?)

This is a form with hairy peduncles, especially at the base of the flower, ciliate scales and generally hairy in the axils of the leaves, which are also ciliate. In the foot-hills of the Rocky Mountains, 49th parallel; also, in the lower part of the South Kootanie Pass. (*Dawson.*)

(1031.) **A. azureus,** Lindl.

Dry sandy soil rather scarce. Wesleyan Methodist burying ground, Belleville; also, Rice Lake Plains, Ont. (*Macoun.*) Vicinity of

Hamilton, Ont. (*Logie.*) Malden, Ont. (*Maclagan.*) Not uncommon, London, Ont. (*Saunders.*)

(1032.) **A. undulatus,** Linn.

A. diversifolius, Michx. Fl. II., 113.

Dry woodlands and thickets, not common. Petitcodiac, N. B. (*Brittain.*) Rice Lake Plains, common. (*Macoun.*) Vicinity of Hamilton. (*Logie.*) Sandwich, Ont. (*Maclagan.*)

(1033.) **A. cordifolius,** Linn.

Woodlands and thickets, and in fence corners. Pictou, N.S. (*McKay.*) In woods near Annapolis, N. S. (*Macoun.*) Very common in woodlands, N.B. (*Fowler's Cat.*) Common throughout Quebec and Ontario, and extending westward to the Georgian Bay.

(1034.) **A. Lindleyanus,** Torr. & Gray.

A. paniculatus, Ait. var. *δ.* Hook. Fl. II., 8.

Cool wet woods throughout the northern forest region. Lake Mistassini, northern Quebec. (*J. Richardson.*) Common on Anticosti around Jupiter River, scarce along the Gaspé coast but frequent along the travelled road in rear of Point Fame lighthouse. Doubtless common in northern Quebec and westward to the Saskatchewan, where it becomes abundant and is found chiefly in damp woods to the base of the Rocky Mountains and northward to Little Slave Lake and beyond. (*Macoun.*) On the Red and Assiniboine rivers, Man. (*Douglas.*) Slave Lake. (*Richardson.*) Dunvegan, Peace River, N.W.T.; and on the Chilcoten River, west of the Fraser River, B.C. (*Dawson*)

Var. *γ.* Torr. & Gray.

A. praecox, Lindl. Hook. Fl. II., 9. Macoun's Cat., No. 847.
A. ciliolatus, Lindl. Hook. Fl. II., 9.

This is the form with thin membranaceous leaves. It seems to grow principally in shady grassy places, and is possibly more northern in its range. Red Deer River, near the Hand Hills, and along the Saskatchewan from Carlton to Edmonton; also on the Porcupine Mountain, Man. (*Macoun.*) Slave Lake and Fort Franklin on the Mackenzie River. (*Richardson.*)

(1035.) **A. sagittifolius,** Willd.

Sandy or dry woods and thickets and along fences, rather local. Petitcodiac, N.B. (*Brittain.*) Common in the neighborhood of Belleville and westward through Northumberland Co., Ont. (*Macoun.*) Niagara and Malden. (*Maclagen.*) Vicinity of London, Ont. (*Burgess.*)

(1036.) **A. ericoides,** Ait.

A. sparsiflorus, Michx. Fl. II.. 113.

Barren soil and along lake shores or river margins. Toronto Island and along the sandy shore of Lake Huron. (*Macoun.*) Barren soil, Canada. (*Pursh.*)

Var. **villosus,** Torr. & Gray, Fl. II., 124.

Aster villosus, Michx. Fl. II., 113.

Vicinity of Port Stanley, Ont. (*Burgess.*) A very distinct variety with hairy stem and leaves.

(1037.) **A. multiflorus,** Ait.

A. ericoides, Lam. Michx. Fl. II., 113.

Dry or barren fields, rare in Ontario. Wesleyan Methodist burying-ground, Belleville; and on the Rice Lake Plains, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Malden, Ont. (*Maclagan.*) Canada. (*Pursh.*)

Var. **strictcaulis,** Torr. & Gray Fl. II., 125.

A. ericoides, Hook. Fl. II., 12.

This is the common form of *A. multiflorus* as found throughout the prairie region. It is very abundant and in many places forms one-half of the prairie vegetation. (*Macoun.*) Red River. (*Douglas.*) Saskatchewan and towards the Rocky Mountains. (*Drummond.*) Turtle Mountain, and abundant from the Red River to the Rocky Mountains on the 49th parallel. (*Dawson.*)

Var. **commutatus,** Torr. & Gray Fl. II., 125.

A. ramulosus, var. *incano-pilosus,* Hook. Fl. II., 13.

Heads larger, fewer, and generally single on the short branches. Hand Hills on dry exposed soil, N. W. T. (*Macoun.*) On the Saskatchewan. (*Drummond.*)

(1038.) **A. falcatus,** Lindl.

A. ramulosus, Lindl. Var. *a.* Hook. Fl. II., 13.

This species seems to be only a variety of the preceding, but differs in having three-nerved leaves, with appressed pubescence and with looser and more acute involucral scales. Plains west of the Touchwood Hills and along the North Saskatchewan. (*Macoun.*) Middle Fork of North Branch of Old Man River, within the Rocky Mountains.

(*Dawson.*) Saskatchewan to Fort Franklin on the Mackenzie River. (*Richardson.*) Within the Rocky Mountains, Lat. 54°. (*Drummond.*) Point Barrow to Mackenzie River along the northern coast. (*Rothr. Alask.*) At Spence's Bridge, B.C. (*Fletcher.*) Chilcoten River, west of the Fraser River, B.C. (*Dawson.*)

(1039.) **A. campestris,** Nutt.

The specimen referred here is only viscid-pubescent on the upper part of the stem and especially on the involucral scales and pedicels. Chilcoten River, west of the Fraser River, B.C. (*Dawson.*)

(1040.) **A. dumosus,** Linn.

A very obscure species in Canada. Should be looked for in the south-western part of Ontario. Vicinity of Hamilton, Ont. (*Logie.*) South-western Ontario. (*Maclagan.*)

(1041.) **A. paniculatus,** Lam.

A. simplex, Torr. & Gray Fl. II., 131. Macoun's Cat., No. 852.
A. tenuifolius, Torr. & Gray Fl. II., 132, in part. Macoun's Cat., No. 870.
A. parviflorus, Hook. Fl. II., 11.
A. Lamarckianus, Hook. Fl. II., 11. Macoun's Cat., No. 853.

This species, as I understand it, includes all the forms which we in Canada have been naming *A. simplex* and *A. tenuifolius*, but besides the eastern forms, Dr. Gray has referred large-flowered western specimens to the same multiform species, and in the absence of his revision of this most difficult genus I make no attempt to separate the various forms. Borders of brooks and along rivers and in low meadows from Nova Scotia to the Rocky Mountains, and possibly west to the Coast Range in British Columbia. We have possibly two species here.

(1042.) **A. diffusus,** Hook. Fl. II., 19.

A. miser, Torr. & Gray Fl. II., 129. Macoun's Cat., No. 843.
A. pendulus, Hook. Fl. II., 12.
A. divergens, Hook. Fl. II., 11.

This is another multiform species, and although numerous varieties might be enumerated, we consider it better to leave them together until sufficient material has been collected to enable some one to speak definitely regarding the various forms. Old fields and borders of woods, along ditches and in low damp woods, extending from Nova Scotia and New Brunswick to the western part of Ontario.

(1043.) **A. salicifolius,** Ait.

A. carneus, Nees. Torr. & Gray Fl. II., 133. Macoun's Cat., No. 873.
A. laxifolius, Hook. Fl. II., 10, in part.

This is another species which may include two distinct forms or

varieties. It has been reported from Nova Scotia (though doubtfully), and from western Ontario by Maclagan, but we have never seen an eastern specimen. Our western specimens approach *A. paniculatus* but differ in having the involucral bracts ciliate, the heads larger and the leaves wider.

(1044.) **A. junceus,** Ait.

A. laxus, var. *borealis*, Macoun's Cat., No. 850.
A. borealis, Provancher, Fl. Canad. I., 308.
A. laxifolius, Nees. Hook. Fl. II., 10. Macoun's Cat., No. 840.
A. laxifolius, var. *borealis*, Torr. & Gray Fl. II., 138.
A. bellidiflorus, Hook. Fl. II., 11.

This species, as I understand it, grows in our cold bogs and wet meadows and is generally in flower in the latter part of July. It extends from the eastern provinces to the Rocky Mountains, and is not unfrequent on wet boggy places in the prairie region. (*Macoun.*) Wooded country from Lat. 54°–64° ; also, Slave Lake. (*Richardson.*) From Hudson Bay to the Rocky Mountains in swampy places. (*Drummond.*) Chilcoten River, B.C. (*Dawson.*)

(1045.) **A. æstivus,** Ait.

Dr. Gray says this species is indigenous in British America, but I have no means of separating it from the preceding which very likely includes forms of it. This is named "Labrador star-wort," and is said to flower by the middle of June. Very likely both this and the preceding are the same.

(1046.) **A. Novi-Belgii,** Linn.

A. longifolius, Lam. in part for eastern specimens.

We have no specimens of this species from the eastern provinces and are not certain of its occurrence there, but as Dr. Gray states it has been confounded with *A. longifolius* it will, in all probability, be found within their limits. The western form, which may be the *A. asper*, Lindl., referred to on page 10, Hook. Fl. Vol. II., was obtained at Morley in the valley of Bow River. (*Macoun.*)

(1047.) **A. tardiflorus,** Linn.

A. Cornuti, Nees. Hook. Fl. II., 9.
A. patulus, Lam. Torr. & Gray Fl. II., 148.

Native of Lower Canada, (*Dr. Gray.*) Frequent along the Gaspé coast, but hitherto referred to *A. longifolius*. Rather common on Anticosti, especially at the mouth of Jupiter River. (*Macoun.*) Possibly mistaken in Nova Scotia and New Brunswick for *A. longifolius*.

(1048.) **A. longifolius,** Lam.

A. salicifolius, Rich. in part.

This species is another of those that need careful examination and comparison with authentic specimens It is reported from Nova Scotia and New Brunswick, but these notices are more likely referable to the foregoing species. Mouth of Jupiter and other rivers, Anticosti, and in a few localities along the Gaspé coast. (*Macoun.*) Very likely it is the *A. salicifolius* of Richardson from Hudson Bay.

(1049.) **A. puniceus,** Linn.

This species in the typical form in low meadows and along streams, in great profusion and luxuriance, extends from the Atlantic Coast to the Rocky Mountains.

Var. **firmus,** Torr. & Gray Fl. II., 141.

A. vimineus, Lindl. Hook. Fl. II., 10.
A. puniceus, var. *vimineus.* Macoun's Cat., No. 855.

Low wet shady woods eastward, but common in river bottoms in the prairie region. Halifax, N.S. (*Sommers.*) Lake Huron. (*Dr. Todd.*) At Green Lake, Lat. 56°; Red Deer, South Saskatchewan and Bow River valleys, N.W.T. (*Macoun.*)

(1050.) **A. Novæ-Angliæ,** Linn.

Rocky banks, thickets, fence corners, old fields and by roadsides. St. Helen's Island, Montreal. (*McGill Coll. Herb.*) Common in Ontario. westward to the Georgian Bay.

(1051.) **A. ampius,** Lindl. Hook. Fl. II., 10.

Rocky Mountains. (*Drummond.*) We know nothing of this species.

(1052.) **A. mutatus,** Torr. & Gray Fl. II., 142.

A. Unalaschkensis, β. (?) *major,* Hook. Fl. II., 7.

Saskatchewan to the Rocky Mountains. (*Drummond.*)

(1053.) **A. peregrinus,** Pursh.

North-west coast; and Ounalashka. (*Pursh.*) Norfolk Sound. (*Rothr. Alask.*)

(1054.) **A. follaceus,** Lindl.

Ounalashka. (*Fischer.*) Specimens which we refer here were collected last August at Victoria, Vancouver Island. (*Fletcher.*) Little Shuswap Lake, B.C. (*Dawson.*)

(1055.) **A. Sayii,** Gray.

A. modestus, Lindl. Hook. Fl. II., 8. Macoun's Cat., No. 851.

Woods at the mouth of Smoky River, Lat. 56°. (*Drummond.*) Along the North Saskatchewan between Fort Pitt and Edmonton. (*Macoun.*)

(1056.) **A. —— ?**

This is No. 518 of Suksdorf. Vicinity of Victoria, Vancouver Island. (*Fletcher.*)

(1057.) **A. elegans,** Torr. & Gray (?).

Most likely a form of the next. Ladner's Landing, B.C., and near Victoria. (*Fletcher.*)

(1058.) **A. Engelmanni,** Gray.

Cascade mountains, Lat. 49° (*Lyall.*) On the upper slopes of the South Kootanie Pass, Lat. 49°. (*Dawson.*)

(1059.) **A. alpinus,** Linn.

On the more elevated of the Rocky Mountains, Lat. 54° (*Drummond.*) Bow River Pass. (*Macoun.*) Rocky Mountains. (*Bourgeau.*) Ounalashka, 2,000 feet above the sea. (*Rothr. Alask.*) Between the Coppermine River and Cape Turn-again, Arctic Coast. (*Dease.*)

(1060.) **A. pygmæus,** Lindl.

Arctic Sea-coast. (*Richardson.*)

(1061.) **A. acuminatus,** Michx.

In deep, rich, cool or rocky, woods, common eastward. Anticosti. (*Verrill.*) Windsor, N.S. (*How.*) Halifax, N.S. (*Sommers.*) In cool rich woods, common, N.B. (*Fowler's Cat.*) Common throughout Quebec, and westward in eastern Ontario. (*Macoun.*) Vicinity of Ottawa, local, but abundant where it occurs. (*Fletcher Fl. Ott.*) Woods and thickets west of the Junction, Prescott, Ont. (*Billings.*)

(1062.) **A. nemoralis,** Ait.

A. uniflorus, Michx. Fl. II., 110.
A. ledifolius, Pursh. Fl. II., 544.
Galetella nemoralis, Nees. Hook. Fl. II., 15.

In sphagnous bogs and about mountain lakes. Newfoundland, at Harbor Grace. (*McGill Coll. Herb.*) North Sydney, Cape Breton. (*Macoun.*) Halifax, N.S. (*Sommers.*) Near St. John, N.B. (*Fowler's Cat.*) St. Stephen, N.B. (*Vroom.*) Common at Rivière du Loup, Q.

(*Thomas.*) In profusion on gneiss rocks on the shores of Trembling Lake, Q. (*D'Urban.*) Lake Mistassini, Q. (*J. Richardson.*) Thickets on a sandy beach, Lake Joseph and other localities, Muskoka, Ont. (*Burgess.*)

(1063.) **A. ptarmicoides,** Torr. & Gray.

Diplopappus albus, Hook. Fl. II., 21.
Helcastrum album, DC. Prodr. V., 264.

Dry soil or rocky banks, scarce eastward. Dry fields near Belleville; also, west bank of the Trent above Trenton, Ont. Shore of Red Bay, Lake Huron. North-east shore of Lake Superior, both above and below Michipicotin, and on exposed points, Lake Nipigon. Along the Assiniboine, near Brandon and on the Red Deer River, at the head of Lake Winnipegoosis. (*Macoun.*) Wood End, Souris River, Lat. 49°. (*Burgess.*) Hurricane Hills, N.W.T. (*J. M. Macoun C. P. R. Coll.*) On the banks of the Saskatchewan, but rare. (*Richardson.*) Along the Red River, Man. (*Douglas.*) Stoney Mountain, Man. (*Fletcher.*)

(1064.) **A. lutescens,** Torr. & Gray.

Diplopappus albus, var. *lutescens*, Hook. Fl. II., 21.
D. lutescens, DC. Prodr. V., 278.

On dry elevated ground of the Assiniboine River, Man. (*Douglas.*) West of the Touchwood Hills, 1872, not detected since. (*Macoun.*) This form differs from the preceding in its simple corymb, rough hairy stem, leaves lanceolate and scabrous hairy.

(1065.) **A. angustus,** Torr. & Gray.

Tripolium angustum, Hook. Fl. II., 15.

Saskatchewan and towards the Rocky Mountains. (*Drummond.*) Slave Lake. (*Richardson.*) Salt marsh borders at Old Wives Lakes, and westward to the Rocky Mountains, and northward to Lake Athabasca. (*Macoun.*)

(1066.) **A. pauciflorus,** Nutt.

Tripolium subulatum, Nees. Hook. Fl. II., 15.

Margin of saline lakes and in salt marshes. Marshes of the Saskatchewan. (*Drummond.*) Very abundant in salt marshes along Lake Winnipegoosis, and up the Red Deer River, Lat. 53°; also, in all salt marshes in the prairie region, and north of the North Saskatchewan, above Fort Pitt. (*Macoun.*) Wood Mountain, Lat. 49°. (*Dawson.*)

(1067.) **A. linifolius,** Linn.

A specimen of an aster gathered in a marsh with numerous brackish marsh species is placed under this name until better specimens are procured. Shore of Lake Huron, Bruce peninsula, Ont. 1871. (*Macoun.*)

(1068.) **A. linariifolius,** Linn.

Diplopappus linariifolius, Hook. Fl. II., 21. Macoun's Cat., No. 896.
Aster rigidus, Linn. Pursh. Fl. II., 544.

Newfoundland. (*Cormack.*) Nepisiquit River, N.B. Rather rare. (*Fowler's Cat.*) Three Rivers, Q. (*Maclagan.*)

(1069.) **A. umbellatus,** Mill.

Diplopappus umbellatus, Hook. Fl. II., 22. Macoun's Cat., No. 895.
D. amygdalinus, Hook. Fl. II., 23.

Common in damp thickets or wet meadows along streams, from Newfoundland, Anticosti, Nova Scotia and New Brunswick westward to the Saskatchewan.

Var. **pubens,** Gray.

This form is common in the valleys of the Magpie and Kaministiquia rivers, Lake Superior and westward to the Saskatchewan. (*Macoun.*)

Note.

Collectors are earnestly requested to obtain all forms of *asters* at the proper season and, in all cases, to take the root-leaves, so that in the course of a few years we may be enabled to revise what we have just written, and be able to place before students a complete monograph of Canadian *asters.* We are well aware of the imperfections of the above enumerations, but with the material at hand it is the best we can do. Dr. Gray is now revising the genus and a large part of the changes made in the synonymy are due to his advice and writings. The willow-leaved *asters* are in great confusion and it is more than probable that they will all be reduced to a few polymorphous species including many of our present species as varieties.

276. ERIGERON, Linn.

(1070.) **E. hyssopifolius,** Michx. Fl. II., 123.

Aster graminifolius, Pursh. Torr. & Gray Fl. II., 156. Macoun's Cat., No. 842.
Galatella graminifolia, Hook. Fl. II., 15.

Damp, rocky, river banks and moist crevices of cliffs. Mouth of

the Aroostook, Tattagouche Falls. Rare, N. B. (*Fowler's Cat.*) Aroostook Falls, N.B. (*Wetmore.*) Very common in all the river valleys of Anticosti, and frequent in the river valleys of the Gaspé peninsula; abundant at Otter Head and Current River, Lake Superior. (*Macoun.*) Hudson Bay near York factory, and at the mouth of the Churchill River. (*R. Bell.*)

(1071.) **E. filifolius,** Nutt. Torr. & Gray Fl. II., 177.

Diplopappus filifolius, Hook. Fl. II., 21.
Chrysopsis canescens, DC. Prodr. V., 328.

On the slope of Jackass Mountain and at Spence's Bridge, B.C. (*Macoun.*) Nicola Valley, B.C. (*Dawson.*) Common at many points on the Thompson River, between Lytton and Spence's Bridge, B.C. (*Fletcher & Hill.*)

(1072.) **E. radicatus,** Hook. Fl. II., 17.

On the top of dry gravel ridges west of Moose Mountain Creek; also, on gravel ridges at the eastern end of the Cypress Hills, N.W.T., and on ridges within the hills, (*Macoun.*) Rocky Mountains near Jasper's Lake, Lat. 54°. (*Drummond.*)

(1073.) **E. peucephyllus,** Gray.

Chrysopsis hirtella, DC. Prodr. V., 327 (?)

Cypress Hills, N.W.T., 1880. Spence's Bridge, B.C., 1875. (*Macoun.*) The rays of this species are different from other *Erigerons* by being almost yellow when fresh and quite so when dry.

(1074.) **E. compositus,** Pursh.

On dry or wet rocky slopes or ridges generally alpine. Moose Mountain Creek, on sand hills, N.W.T. (*J. M. Macoun C. P. R. Coll.*) Red Deer Lakes, west of the South Saskatchewan; Bow River Pass, Rocky Mountains, and on ridges in the Cypress Hills. (*Macoun.*) Rocky Mountains in numerous places from the 49th parallel to the Bow River Pass. (*Dawson.*) On the highest of the Rocky Mountains in Lat. 54°. (*Drummond.*) Barren country between 64° and the Arctic Sea. (*Richardson.*) On the top of Stuart Lake Mountain, B.C. (*Macoun.*) Iltasyonco River, B.C. (*Dawson.*) Greenland. (*Hook. Arct. Fl.*)

Var. **discoideus,** Gray.

Near Lytton on the Fraser and close to Cache Creek, B.C. (*Macoun.*) Black Cañon of the Thompson River, B.C. (*Hill.*) Lytton and Nicoamin on the Thompson, B.C. (*Fletcher.*)

Var. **trifidus,** Gray.

E. trifidus, Hook. Fl. II., 17.

Barren places among the Rocky Mountains, Lat. 54–56°. (*Drummond.*)

Var. **glabratus,** Macoun.

On the Rocky Mountains of the South Kootanie Pass, 49th parallel. Perfectly smooth. A specimen approaching this but slightly hairy was gathered at Iltasyonco Lake, B.C. (*Dawson.*)

(1075.) **E. corymbosus,** Nutt.

Collected by Lyall near the southern boundary of British Columbia. (*Gray.*)

(1076.) **E. cæspitosus,** Nutt. Torr. & Gray Fl. II., 179.

E. canescens, Torr. & Gray Fl. II., 179.
Diplopappus grandiflorus, Hook. Fl. II., 21.
Diplopappus canescens, Hook. Fl. II., 21.

Plains of the Saskatchewan and prairies of the Rocky Mountains. (*Drummond.*) Frequent on dry gravelly knolls from Fort Ellice to the Rocky Mountains. (*Macoun.*) Souris River, 49th parallel. (*Dawson.*)

(1077.) **E. pumilus,** Nutt.

E. hirsutus, Pursh Fl. II., 742.

On dry open plains, apparently rare. Souris Plain, five miles, south of Moose Mountain, on hills of pure sand, N.W.T. (*J. M. Macoun C. P. R. Coll.*) Wood End, Souris River, 49th parallel; also, between Fort McLeod and the Rocky Mountains on Old Man River. (*Dawson.*) On the dry plain near the Hand Hills. (*Macoun.*)

(1078.) **E. concinnus,** Torr. & Gray Fl. II., 174.

E. strigosus, var. *hispidissimus,* Hook. Fl. II., 18, chiefly.

Kit-a-mum River, Kootanie Valley, and on dry gravelly banks, Nicola Valley, B.C. (*Dawson.*)

(1079.) **E. uniflorus,** Linn.

E. alpinus, Pursh. Fl. II., 532.

Labrador. (*Kohlmeister.*) Top of the Rocky Mountains, South Kootanie Pass. (*Dawson.*) Alpine Rocky Mountains. (*Bourgeau.*) Summits of the Rocky Mountains, Lat. 54–56°. (*Drummond.*) Arctic shores and islands from Behring's Straits and Unalashka to Greenland. (*Torr. & Gray.*) On both sides of Baffin's Bay and Davis' Straits.

(*Kane.*) Between the Coppermine River and Cape Turn-again.' (*Dease.*) Sinclair's Falls, Back's Great Fish River. (*Dr. Rae.*)

(1080.) **E. grandiflorus,** Hook. Fl. II., 18.

Summits of the Rocky Mountains, Lat. 54–56°. (*Drummond.*) Eastern summit of the North Kootanie Pass. (*Dawson.*)

(1081.) **E. lanatus,** Hook.

Summits of the Rocky Mountains, Lat. 54–56°. (*Drummond.*)

(1082.) **E. speciosus,** DC.

E. glabellus, var. *mucronatus,* Hook. Fl. II., 19.

Fraser River Crossing of the C. P. R., B.C. (*Fletcher.*) On the Skagit River, B.C. (*Dawson.*)

(1083.) **E. macranthus,** Nutt.

Along Belly River and westward to the Rocky Mountains ; Kootanie Valley, near Wild Horse Creek ; Chilcoten River, west of the Fraser, B.C. (*Dawson.*)

(1084.) **E. glabellus,** Nutt.

Quite common on the prairie from Winnipeg to the Rocky Mountains. What we take as the typical form is mostly glabrous below with ciliate leaves which are almost smooth. (*Macoun.*) From the Saskatchewan to Lat. 64°, throughout the wooded country. (*Richardson.*) Souris Plain, south of Moose Mountain. (*J. M. Macoun C. P. R. Coll.*) Abundant across the whole prairie region to the Rocky Mountains, and assuming many varietal forms; a large form at Garrett's Ranche, Old Man River. (*Dawson.*) Wainwright Inlet to the Mackenzie River. (*Rothr. Alask.*)

Var. **asperus,** Torr. & Gray Fl. II., 173.

E. asperum, DC. Prodr. V. 286.
E. pulchellus, A. Hook. Fl. II., 19.

Stem and leaves rough with a strigose-hirsute pubescence. Common on the prairie and in thickets, from Long. 100° to the Rocky Mountains, and northward to Peace River, Lat. 56°. (*Macoun.*) Woody country, from the Saskatchewan to Lat. 64°. (*Richardson.*) Fort Youcon, Alaska. (*Rothr. Alask.*)

Var. **pubescens,** Hook. Torr. & Gray Fl. II., 174.

Souris Plain, one mile south of Moose Mountain, N.W.T. (*J. M. Macoun C. P. R. Coll.*) Occasionally met with on the prairie west of

Fort Ellice. (*Macoun.*) Crow Nest Lake, North Fork of Old Man River, Rocky Mountains. (*Dawson.*) Prairies of the Rocky Mountains, Lat. 54–56°. (*Drummond.*)

Var. **mollis,** Gray.

Along Belly River in the Foot Hills of the Rocky Mountains; also, at Michell Creek, Rocky Mountains. (*Dawson.*) This form might be attached to the preceding species, but it has a hairy involucre, and its stem is leafy up to the flower or flowers and the leaves are sessile, broad at the base, and tapering to the point, ciliate on the margins and the midrib covered below with long hairs.

(1085.) **E. salsuginosus,** Gray.

Aster salsuginosus, Rich. Hook. Fl. II., 6. Macoun's Cat., No. 841.
A. Unalaschensis, Nees. Hook. Fl. II. 7.

Salt plains of the Athabasca (?) (*Richardson.*) Rocky Mountains. (*Drummond.*) Alpine Rocky Mountains. (*Bourgeau.*) Rocky Mountains, 6,000 feet altitude on the 49th parallel; Michell Creek, Crow Nest Pass; western summit of the North Kootanie Pass; summit of the North Kootanie Pass; summit of the South Kootanie Pass; Skagit River, Il-ga-chug Mountains, Tsi-tse Lake, Upper Blackwater River, B.C (*Dawson.*)

Var. **Unalaschkensis,** Less.

Queen Charlotte Islands, 1878. (*Dawson.*) Two forms were gathered. One with narrow leaves and a very leafy hairy stem, the hairs not at all appressed; the other with a less hairy stem fewer and larger leaves, which are slightly denticulate and more pointed. In both, the involucral bracts are quite hairy, and in the latter very much attenuated and variously curved at the tips. These forms are doubtless distinct, but we need more specimens to determine.

(1086.) **E. bellidifolius,** Muhl.

E. pulchellus, Michx. Fl. II., 124.

Dry, sandy fields and pine woods. Halifax, N.S. (*Sommers.*) Pictou, N.S. (*McKay.*) Common at Rivière-du-Loup, Q. (*Thomas.*) (Very doubtful.) Dry, sandy woods common at Belleville and westward in the Lake Ontario counties. (*Macoun.*) Prince's Island, near Hamilton, Ont. (*Logie.*) Niagara Falls and westward. (*Maclagan.*) Not uncommon at London, Ont. (*Burgess.*)

(1087.) **E. Philadelphicus,** L. Torr. & Gray Fl. II., 171.

E. purpureus, Hook. Fl. II., 19.

Low grassy places along streams and in the valleys of all the large

rivers, from the Atlantic to the Pacific and northward to the Arctic circle.

(1088.) **E. Bellidiastrum,** Nutt. (?)

Stream banks and meadows. Kit-a-mum River, Kootanie Valley, Rocky Mountains, B.C. (*Dawson.*)

(1089.) **E. annuus,** Pers. Torr. & Gray Fl. II., 175.

E. heterophyllum, Muhl. Pursh. Fl. II., 534.

Fields and waste places apparently common at least in Ontario. Windsor, N.S. (*How.*) Truro, Pictou and Gut of Canso, N.S. (*Macoun.*) Rather common about Hampton and Petitcodiac, N.B. (*Brittain.*) Common at Rivière-du-Loup. (*Thomas.*) Common in western Quebec. (*McGill Coll. Herb.*) Very common throughout Ontario.

(1090.) **E. strigosus,** Muhl. Torr. & Gray Fl. II., 176.

E. nervosum, Pursh. Fl. II., 534.

Dry fields and open woods quite common, from Nova Scotia to the western part of Lake Superior, in the valley of the Kaministiquia River. (*Macoun.*) Lake of the Woods and Turtle Monntain, 49th parallel. (*Dawson.*) Souris Plain, south of Moose Mountain, N.W.T. (*J. M. Macoun C. P. R. Coll.*)

(1091.) **E. alpinus,** Linn.

Rocky Mountains at elevated situations, Lat. 54–56°. (*Drummond.*) South Kootanie Pass; eastern summit of North Kootanie Pass; western summit of North Kootanie Pass—a low branching form. (*Dawson.*) Wolf's Rapids, Back's Great Fish River. (*Dr. Rae.*) Greenland. (*Hook. Arct. Fl.*)

Var. *γ.* **elata,** Hook. Fl. II., 18.

Rocky Mountains in elevated situations, Lat. 54–56° (*Drummond.*) Bow River Pass. (*Macoun.*) Ilgacho Brook, B.C. (*Dawson.*) At Fort Confidence, Lat. 66°, 55°, Long. 118-48. (*Dease.*) Bartlett Bay, Alaska. (*Meehan.*)

(1092.) **E. acris,** Linn.

Labrador. (*Torr. & Gray.*) Grand Falls, St. John River, N.B. (*Hay.*) On shingle at the mouth of Jupiter River, Anticosti; along the Gaspé coast at and above Cape Rosier; north shore of Lake Superior; Hand Hills, N.W.T. (*Macoun.*) Hurricane Hills, south of Indian Head, N.W.T. (*J. M. Macoun C. P. R. Coll.*)

Var. **Drœbachensis,** Blytt.

E. glabratus, Hook. Fl. II., 18, partly.
E. Kamtschaticus, DC. Prodr. V., 290.

Anticosti and Labrador to the Rocky Mountains. (*Gray.*) Along the Gaspé coast above Mont Louis ; Michipicotin Island, Lake Superior, and on hillsides along the Magpie River, north of the lake ; abundant on islands in Lake Nipigon, and at Humboldt Bay on same lake. (*Macoun.*) Hudson Bay to the Rocky Mountains, and from the Saskatchewan to Fort Franklin on the Mackenzie River. (*Richardson.*) York Factory, Hudson Bay. (*R. Bell.*) Bartlett Bay, Alaska. (*Meehan.*)

(1093.) **E. armeriæfolius,** Turz.

E. lonchophyllus, Hook. Fl. II., 18. Macoun's Cat., No. 890.
E. glabratus, var. *minor,* Hook. Fl. II., 18, partly.

Rocky Mountains and Saskatchewan. (*Drummond.*) North of the Saskatchewan near Edmonton. (*Macoun.*)

(1094.) **E. Canadense,** Linn. Fire-weed.

Fields and waste places from the Atlantic to the Pacific. Spreading where not indigenous by means of the railways. This is the "Fire-weed" of the Ontario farmers, which is injurious to badly winter killed "fall wheat."

277. ANTENNARIA, Gærtn. EVERLASTING.

(1095.) **A. dimorpha,** Torr. & Gray Fl. II., 431.

On very dry soil at Lytton, B.C. (*Macoun.*) Common at Spence's Bridge, on the Thompson River, B.C. (*Fletcher.*)

(1096.) **A. racemosa,** Hook. Fl. I., 330.

Rocky, mountain slopes. Alpine woods of the Rocky Mountains. (*Drummond.*) Bow River Pass. (*Macoun.*) Eastern and western summits of the North Kootanie Pass. (*Dawson.*) Summit of Stuart Lake Mountain, B.C. (*Macoun.*) Elgatcho Lake and Dean or Salmon River, near Salmon House, B.C. (*Dawson.*)

(1097.) **A. plantaginifolia,** Hook.

Gnaphalium plantagineum, Willd. Pursh. Fl. II., 525.

Wet and sterile knolls and fields and open woods, from Anticosti, Nova Scotia, New Brunswick and westward to the Pacific. Eastward two forms of this species are found—one in old pastures which is prob-

ably introduced ; the other a taller form that is certainly indigenous. Slave Lake. (*Back.*)

(1098.) **A. dioica, Gærtn.**

From Newfoundland to Labrador and the extreme Arctic regions, and dry mountain pastures of the Rocky Mountains. (*Hooker.*) Islands adjacent to the Alaskan coast. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*) On the western prairie region and in British Columbia a form which, in some respects, approaches *A. alpina* is very common. It seems to be the *A. dioica* of Eaton in King's Report of the 40th parallel, but is not the *A. dioica* of the English botanists. It is probably the prairie form of *A. alpina*, which indeed a late communication from Dr. Gray would indicate. Our plant may be the var. *parvifolia*, Torr. & Gray, which is not referred to by late writers.

Var. **rosea,** Eaton. Bot. King Exp., 186.

Rather rare east of the Rocky Mountains, but common in British Columbia. Near Short Creek, Souris River, 49th parallel. Michell Creek, Crow Nest Pass, Rocky Mountains ; Dean or Salmon River, B.C. (*Dawson.*) Frequent from Lytton to near Stuart Lake, B.C. (*Macoun.*)

(1099.) **A. alpina,** Gærtn.

Labrador. (*Kohlmeister.*) York Factory, Hudson Bay., (*Douglas.*) Throughout the barren regions to the elevated Rocky Mountains. (*Drummond.*) North of the Cypress Hills, N.W.T., and on the Rocky Mountains, 49th parallel. (*Dawson.*) Bow River Pass, Rocky Mountains ; Câche Creek and Stuart Lake mountains, B. C. (*Macoun.*) Kotzebue Sound, island of St. Lawrence, and Ounalashka. (*Rothr. Alask.*) On both sides of Baffin's Bay and Davis Straits. Mellville islands. (*Capt. Markham.*) Greenland. (*Hook. Arct. Pl.*) Bartlett Bay, Alaska. (*Meehan.*) Lake Lindeman, source of the Youcan River, Lat. 60°. (*Schwatka.*)

(1100.) **A. Carpathica,** R. Br.

Wet, boggy places and river margins. Labrador. (*Gray.*) River de Brig and Gunn River, Anticosti. (*Macoun.*) York Factory, Hudson Bay. (*R. Bell.*) Summits of the most elevated Rocky Mountains, about Lat. 54°. (*Drummond.*) Crow Nest Pass, east of the lake; western summit of North Kootanie Pass ; summit of the Cascade Mountains, B.C. (*Dawson.*) Câche Creek Mountain, B.C. (*Macoun.*)

Var. **pulcherrima,** Hook.

Swamps of the plains, and among the Rocky Mountains. (*Drummond.*) In numerous swamps in the prairie region, west of the Touchwood Hills, and quite common west of the Meridian of Battleford. (*Macoun.*) North of the Cypress Hills and in the Foot Hills of the Rocky Mountains, 49th parallel. (*Dawson.*) Vicinity of Calgary, N.W.T. (*J. M. Macoun C. P. R. Coll.*)

(1101.) **A. luzuloides,** Torr. & Gray Fl. II., 430.

Oregon or Rocky Mountains. (*Drummond or Douglas.*) Borders of British Columbia. (*Gray.*) Mountain above Spence's Bridge, B.C. (*Macoun.*) The specimens obtained were quite young, heads very small and the pappus short and spatulate. Better specimens are needed.

278. ANAPHALIS, DC. (PEARLY EVERLASTING.)

(1102.) **A. margaritacea,** Benth & Hook.

Antennaria margaritacea, Hook. Fl. II., 329. Macoun's Cat., No. 1030.
Gnaphalium margaritacum, Willd. Pursh. Fl. II., 524.

Common on dry soil along the margins of fields and borders of woods from Newfoundland, Anticosti, Nova Scotia, New Brunswick and westward to the Pacific. Sitka and Ounalashka. (*Rothr. Alask.*) Bartlett Bay, Alaska. (*Meehan.*)

279. GNAPHALIUM, Linn. (CUDWEED.)

(1103.) **G. decurrens,** Ives. Everlasting.

G. luteo-album (?) Holmes. Herb. McGill College.

Old fields and borders of woods. Windsor, N S. (*Hoyt.*) Greenhead, St. John Co.; and abundant along Grand Lake and Salmon River, N.B. (*Fowler's Cat.*) Common in Quebec and Ontario and westward to Michipicotin Island, Lake Superior, also the country north of that lake and west side of Lake Nipigon. (*Macoun.*) British Columbia. (*Gray.*)

(1104.) **G. Sprengelii,** Hook. & Arn.

G. luteo-album, Hook. Fl. I., 328. Macoun's Cat., No. 1021.
G. decurrens, var. *β.* Hook. Fl. I., 328.

Along rivers on gravel and shingle. Straits of De Fuca. (*Scouler.*) Along the Fraser near Yale above the Falls of the Spuzzum, and around Victoria, B.C. (*Fletcher.*)

(1105.) **C. sylvaticum,** Linn. Hook. Fl. I., 328.

Abundant at Campbellton, Restigouche; also found in woods at River Charlo, N.B. Apparently native. (*Fowler's Cat.*) Quite common along the clay banks above high water about one mile below Campbellton, N.B. Certainly indigenous. On the margin of the sea, North Sidney, Cape Breton. (*Macoun.*)

(1106.) **C. Norvegicum,** Gunner.

Labrador. (*Torr. & Gray.*) Canada. (*Pursh.*) On the top of Mount Albert, in a little gully facing north, the snow in which lies nearly all summer, Shickshock Mountains, Gaspé. (*Macoun.*) Russian America. (*Gmelin.*) On both sides of Baffin's Bay and Davis Straits, Upernavick, Lat. 73°. (*Dr. Kane.*) Greenland. (*Hook. Arct. Pl.*)

(1107.) **C. palustre,** Nutt.

Common on dry soil (where water seemed to lie in the spring) east of the Hand Hills, N.W.T. (*Macoun.*) Near Victoria, Vancouver Island. (*Dawson.*) Very common at Victoria, and up the Fraser and Thompson rivers. (*Fletcher.*)

(1108.) **C. uliginosum,** Linn.

Common along roadsides and in damp places in pastures from Newfoundland, Anticosti, Nova Scotia, New Brunswick, and westward to Owen Sound; also, along the Saskatchewan and its branches. (*Macoun.*) Greenland. (*Hook. Arct. Pl.*)

(1109.) **C. polycephalum,** Michx.

Old fields and open places in woods, not rare, often confounded with *G. decurrens* which frequently grows with it. Northport, N.S. (*McGill Coll. Herb.*) In old fields at Annapolis and Kingston on the Annapolis and Windsor Railway, N.S. (*Macoun.*) Specimens in Fredericton University marked abundant, but without locality. (*Fowler's Cat.*) Common in old fields throughout Quebec and Ontario, to the Lake of the Woods. (*Dawson.*)

(1110.) **C. supinum,** Vill. Hook. Fl. I., 329.

Labrador. (*Morrison.*) Greenland. (*Hook. Arct. Pl.*)

(1111.) **C. purpureum,** Linn.

G. Americanum, Pursh Fl. II., 525.
G. Chamissonis, DC. Prodr. VI., 233.

Common in grassy places along the coast at Victoria, Vancouver Island. (*Fletcher.*)

280. INULA, Linn. (ELECAMPANE.)

(1112.) **I. Helenium,** Linn. Common Elecampane.

Introduced. Frequent in old pastures along streams or by roadsides, or in the grassy borders of woods. Common in Nova Scotia. Rare in New Brunswick, but frequent in Quebec, and common in Ontario.

281. ADENOCAULON, Hook. (ADENOCAULON.)

(1113.) **A. bicolor,** Hook.

Near the outlet of Lake Superior [possibly on the north side.] (*Dr. Pitcher.*) Woods on the Portage River, one of the sources of the Columbia, in the Rocky Mountains, Lat. 52°. (*Drummond.*) Small prairie in cedar bush on Wigwam River, Rocky Mountains; on the Cascade Mountains, east of Hope, B.C. (*Dawson.*) Vicinity of Victoria, Vancouver Island. (*Fletcher.*)

282. POLYMNIA, Linn. (LEAF-CUP.)

(1114.) **P. Canadensis,** Linn.

Hillsides in shady, rich soil along streams. On the mountain side near Hamilton. (*Logie.*) Loose rocks along the road leading down to the river below the Clifton House, and abundant amongst rocks, Foster's Flats below the Whirlpool, Niagara Falls. (*Macoun.*) At the Whirlpool below Niagara Falls. (*Maclagan.*) Vicinity of London, Ont. (*Burgess.*)

283. SILPHIUM, Linn. (ROSIN-PLANT.)

(1115.) **S. terebinthinaceum,** Linn. Prairie-Dock.

Open woods and grassy banks. Cayuga and Malden, Ont. (*Maclagan.*) Along the Great Western Railway, east of Paris, Ont. (*Geo. Prescott.*)

(1116.) **S. perfoliatum,** Linn. Cup-Plant.

Rich soil along streams. Island in Detroit River. (*Maclagan.*)

284. IVA, Linn. (MARSH ELDER.)

(1117.) **I. axillaris,** Pursh. Hook. Fl. I., 309.

On dry or wet saline soil. Along the Saskatchewan from Carlton to Edmonton. (*Drummond.*) Very common on the margin of saline lakes and ponds throughout the prairie region. (*Macoun.*) Short Creek, Souris River, 49th parallel, and abundant westward on hard baked clay. (*Dawson.*)

(1118.) **I. xanthiifolia,** Nutt.

Cyclachæna xanthiifolia, Fres. Torr. & Gray, Fl. II., 286.

In alluvial soil along rivers and small streams. Reed Lake, west of Old Wives' Lakes; at Setter's Farm, Cypress Hills; and on the slope of the high bank between Fort Edmonton and the river. (*Macoun.*) Swift Current Creek, C. P. R. Crossing; and at Fort Qu'Appelle close to the Hudson Bay Co.'s store. (*J. M. Macoun C. P. R. Coll.*)

285. Ambrosia, Tourn. (RAG-WEED.)

(1119.) **A. trifida,** Linn.

Low grounds along streams. Common in the vicinity of Montreal. (*Holmes & Ami.*) In a boggy field near St. Louis Dam, Ottawa. (*Macoun & Fletcher.*) Cayuga and Malden, Ont. (*Maclagan.*) Along the northern slope of the Cypress Hills. (*Macoun.*) Vicinity of Winnipeg. (*Bourgeau.*)

Var. **integrifolia,** Torr. & Gray Fl. II., 290.

A. integrifolia, Muhl. Pursh. Fl. II., 580.

On alluvial soil in river valleys. On alluvium along Maple Creek, Cypress Hills. (*Macoun.*) Near Milk River, on low fertile prairie land, 49th parallel. (*Dawson.*)

(1120.) **A. artemisiæfolia,** Linn.

A. elatior, Linn. Hook. Fl. I., 309.

A. paniculata, Michx. Hook. Fl. I., 309, in part.

Very common as a weed along railroads, and in towns and villages, throughout Canada to the Rocky Mountains.

(1121.) **A. psilostachya,** DC.

A. coronopifolia, Torr. & Gray Fl. II., 291.

Lake of the Woods, and westward along the 49th parallel over the

first and second Prairie Steppes. (*Dawson.*) West of the Elbow of the South Saskatchewan. (*Macoun.*) Swift Current at the C. P. R. crossing. (*J. M. Macoun, C. P. R. Coll.*)

286. FRANSERIA, Cav.

(1122.) **F. Hookeriana,** Nutt.

Ambrosia acanthicarpa, Hook. Fl. I., 309.

Banks of the Saskatchewan and Red River. (*Douglas.*) Abundant at Crooked Lake and "Big Stick" Lake, north of Cypress Hills. (*Macoun.*)

(1123.) **F. bipinnatifida,** Nutt.

Ambrosia paniculata, Hook. Fl. I., 309, in part.

Sea shore, Nootka Sound. (*Scouler.*) Queen Charlotte Islands. (*Dawson.*) Vancouver Island. (*Conrley.*)

(1124.) **F. Chamissonis,** Less.

Seashore along the southern part of British Columbia. (*Gray.*)

287. XANTHIUM, Tourn. (COCKLEBUR.)

(1125.) **X. Canadense,** Mill.

X. strumarium, Linn, var. *Canadense,* Torr. & Gray Fl. II., 294.

Common in river bottoms, in many places throughout the north-west. (*Macoun.*) Moose Mountain Lake, N.W.T. (*J. M. Macoun, C. P. R. Coll.*) Lake of the Woods and along the Red River. (*Dawson.*)

Var. **echinatum,** Gray.

X. echinatum, Murray. Torr. & Gray Fl. II., 294.

Waste places and on alluvium in river bottoms, Pictou, N.S. (*McKay.*) Nicolet, Q. (*Maclagan.*) Bridge over the river St. Pierre, Q. (*Holmes.*) Montreal Mountain. (*McGill Coll. Herb.*) Alluvial flats of the Ottawa and at Billings' Bridge. (*Fletcher Fl. Ott.*) Vicinity of Prescott, Ont. (*Billings.*) Valley of the Salmon River at the railway bridge, Shannonville, Ont.; also in St. James' Cemetery, Toronto. (*Macoun.*) Roadsides, common near Hamilton, Ont. (*Logie.*) Chippewa and Malden, Ont. (*Maclagan.*) Vicinity of London, Ont. (*Burgess.*) Abundant at Sarnia and many points along the Great Western Railway, Ont. (*Macoun.*)

(1126.) **X. spinosum,** Linn.

Introduced in wool. Abundant at Dundas, Ont. (*Burgess.*) Strathroy, Ont. (*McGill Coll. Herb.*)

288. HELIOPSIS, Pers. (OX-EYE.)

(1127.) **H. lævis,** Pers.

Buphthalmum helianthoides, Linn. Michx. Fl. II., 130.

Dry open thickets and prairies. St. Catharines and Malden, Ont. (*Maclagan.*) Thickets, vicinity of London, Ont. (*Burgess.*)

(1128.) **H. scabra,** Dunal. Hook. Fl. I., 310.

H. lævis, var. *scabra,* Torr. & Gray Fl. II., 303.

On the prairie between Oak Point and Winnipeg. (*Macoun.*) Common on the banks of Red River near the "Forks" (of the Red and Assiniboine at Winnipeg). (*Douglas.*) Turtle Mountain and Red River prairie on the 49th parallel. (*Dawson.*)

289. RUDBECKIA, Linn. (CONE-FLOWER.)

(1129.) **R. hirta,** Linn.

R. fulgida, Ait. Dawson's Boundary Report.

In old fields and meadows eastward apparently introduced; very abundant on some parts of the prairie region. This species is always found in meadows in eastern Canada, but in Ontario it is found in both fields and thickets, and more especially along the Grand Trunk and Great Western railways, west of Toronto. It is often common on damp places on the prairie as far west as Humboldt on the old telegraph line.

(1130.) **R. laciniata,** Linn Fl. I., 311.

In swamps and low damp thickets. Cross-road Côté des Neiges, also River St. Pierre, near Montreal. (*Holmes.*) Beauharnois, Q. (*McGill Coll. Herb.*) Wet ground near Blue Church, and in thickets west of Brockville, rare. (*Billings.*) Along the Nation River at Casselman's on the Canada Atlantic Railway, 30 miles from Ottawa. (*Fletcher.*) In a small cedar swamp, near Heely Falls, on the Trent, Northumberland Co., Ont. (*Macoun.*) Vicinity of London, Ont. (*Burgess.*) Roseau River and Turtle Mountain on the 49th parallel. (*Dawson.*) Abundant along the Assiniboine River between Winnipeg and Portage la Prairie. (*Macoun.*)

(1131.) **R. columnaris,** Pursh. Fl. II., 575. Hook. Fl. I., 311.

Lepachys columnaris, Torr. & Gray Fl. II., 315. Macoun's Cat. No. 974 and 975.

Very abundant on arid soil especially west of the 102nd meridian, N.W.T. (*Macoun.*) On dry undulating grounds of the Saskatchewan and Red rivers. (*Douglas.*) Frequent along the 49th parallel, and westward to the Foot Hills. (*Dawson.*)

Var. **pulcherrima,** Don.

Lepachys columnaris, var. *pulcherrima,* Torr. & Gray Fl. II., 315.

Along the shores of Long Lake, west of Last Mountain, N.W.T. (*Macoun.*)

290. ECHINACEA, Mœnch. (PURPLE CONE-FLOWER.)

(1132.) **E. angustifolia,** DC.

E. purpurea, Dawson's Boundary Report.

Wood End, on the Souris River, 49th parallel. (*Dawson.*)

291. BALSAMORHIZA, Hook.

(1133.) **B. sagittata,** Nutt.

Buphthalmum sagittatum, Pursh. Fl. II., 564.

Dry, rocky or gravelly soil. Crow Nest Pass, east of the lake, Rocky Mountains, abundant on dry slopes of the hills. (*Dawson.*) Very common on dry grassy slopes on both sides of the Thompson at Spence's Bridge, B.C. (*Macoun & Hill.*)

(1134.) **B. deltoidea,** Nutt.

On Cedar Hill, near Victoria, Vancouver Island. (*Macoun.*) Drew's Harbor, Valdez Island, B.C. (*Dawson.*)

292. HELIANTHUS, Linn. (SUN-FLOWER.)

(1135.) **H. annuus,** Linn. Garden Sun-flower.

H. lenticularis, Dougl. Hook. Fl. I., 313.
H. multiflorus, Hook. Fl. I., 313, in part.

Frequent on waste heaps and in old gardens and around fences in many parts of the Dominion. (The cultivated form.) The following

refer to the indigenous form. On arid soil. Saskatchewan. (*Drummond.*) Bank of Moose Jaw Creek, on arid clay. (*Macoun.*) White Mud River or Frenchman's Creek, 49th parallel. (*Dawson.*) Abundant in the dry interior of British Columbia, along the Thompson River. (*Fletcher & Hill.*)

(1136.) **H. petiolaris,** Nutt.

On arid soil along streams in the south-western part of the prairie region, from the Elbow of the South Saskatchewan westward. (*Macoun.*) Along Belly River. Sandy bank, Wood End on Souris River, 49th parallel. (*Dawson.*)

(1137.) **H. rigidus,** Desf. Var. *β.* Torr. & Gray.

H. atrorubens, Hook. Fl. I., 312.

Plains and grassy prairies. Banks of the Saskatchewan as far as Edmonton. (*Drummond.*) From the Red River to the Rocky Mountains, on the 49th parallel. (*Dawson.*) Very common throughout the whole prairie region. (*Macoun.*)

(1138.) **H. Nuttallii,** Torr. & Gray Fl. II., 324.

On dry open prairie, often confounded with small forms of the next. South of Battleford and near the Hand Hills. Also, west of Humboldt Telegraph Station. (*Macoun.*) Bow River valley at Calgarry. (*J. M. Macoun, C. P. R. Coll.*) Turtle Mountain, 49th Parallel. (*Dawson.*) Interior of British Columbia, (*Gray.*)

(1139.) **H. giganteus,** Linn.

Grassy thickets and borders of marshes. Vicinity of Hamilton, Ont. (*Logie.*) Cayuga and Malden, Ont. (*Maclagan.*) Common at London, Ont. (*Burgess.*) Coldstream, Port Colborne, Ont. (*McGill. Coll. Herb.*) Marshy meadow at Point Edward near Sarnia, also in numerous places along the Great Western Railway, between Sarnia and Hamilton. Very abundant on the prairie region from the Lake of the Woods to the Rocky Mountains, and northward to the forest line. (*Macoun.*)

(1140.) **H. strumosus,** Linn.

Dry, gravelly soil quite common in Hastings and Northumberland counties, Ont. (*Macoun.*) Fields around Hamilton, Ont. (*Logie.*) Strathroy, Ont. (*McGill. Coll. Herb.*) Vicinity of London, Ont. (*Burgess.*) A variety of this species was collected somewhere in the North-West by Bourgeau. See Palliser's Report, page 258. Possibly

the same form was collected on the 49th parallel at Turtle Mountain by Dr. G. M. Dawson.

(1141.) **H. decapetalus,** Linn.

H. frondosus, Hook. Fl. I., 312.
H. tracheliifolius, Holmes Herb. McGill College.

On the borders of woods and thickets. Abundant on Montreal Mountain; Cowansville, Q. Beauharnois Co., Q. Knowlton, Q. (*McGill Coll. Herb.*) Nicolet, Q. (*Maclagan.*) In the vicinity of Prescott quite common. (*Billings.*) Valley of the Trent above Trenton; at Consecon, Prince Edward Co., and abundant in St. James' Cemetery, Toronto. (*Macoun.*) Niagara District. (*Maclagan.*) Common around London, Ont. (*Burgess.*) Mouth of Mississaugi River, Georgian Bay. (*R. Bell.*)

(1142.) **H. divaricatus,** Linn.

On dry, gravelly soil along rivers and in thickets. Chelsea near Ottawa, and common at Prescott, Ont. (*Billings.*) Vicinity of Ottawa. (*McGill Coll. Herb.*) Dry woods and thickets in Hastings Co. and westward throughout Ontario. (*Macoun.*) Norway House, outlet of Lake Winnipeg. (*Richardson.*)

(1143.) **H. parviflorus,** Bernh.

H. microcephalus, Torr. & Gray Fl. II., 329.
H. divaricatus, Michx. Fl. II., 141.

Thickets in alluvial soil in western Ontario. (*Goldie vide Torr. & Gray Fl. II.,* 330.)

(1144.) **H. Maximiliani,** Schrader.

On the Saskatchewan. (*Bourgeau.*) We are not acquainted with this species but very likely confound it with *H. giganteus,* which is very near it.

(1145.) **H. tuberosus,** Linn.

Naturalized in a few places near gardens. An escape in Halifax Co., N.S. (*Lawson.*) Spontaneous about garden fences, N.B. (*Fowler's Cat.*) Naturalized in a few localities in central Ontario. (*Macoun.*) Vicinity of London. (*Burgess.*) Beaver Meadows, near Thorold, Ont. (*Maclagan.*)

(1146.) **H. pumilus,** Nutt.

Specimens which are doubtfully referred to this species were collected at the Blackfoot Crossing on Bow River. (*Macoun.*) Calgarry in the valley of the Bow River. (*J. M. Macoun, C. P. R. Coll.*)

(1147.) **H. doronicoides,** Lam. Torr. & Gray Fl. II., 327, in part.

In the valley of the Kaministiquia, west of Lake Superior, a species of *Helianthus*, which produces large tubers, was observed in profusion near Point Meuron in July, 1869. Not having seen perfect specimens we are still uncertain what species it is but refer it here for the present. Malden, Ont. (*Maclagan.*)

293. ACTINOMERIS, Nutt. (ACTINOMERIS.)

(1148.) **A. squarrosa,** Nutt.

A. alternifolia, DC. Prodr. V., 575.
Verbisina Coreopsis, Michx. Fl. II., 134.

Islands in the Detroit River. (*Maclagan.*)

294. COREOPSIS, Linn. (TICKSEED.)

(1149.) **C. discoidea,** Torr. & Gray Fl. II., 339.

Vicinity of Pictou, N.S. [?] (*McKay.*) Malden, Ont. (*Maclagan.*) Very likely both references belong to a form of *Bidens frondosa.*

(1150.) **C. trichosperma,** Michx.

Islands in Detroit River. (*Maclagan.*) Very likely the species meant is *C. aristosa*, Michx., which might be found as above.

(1151.) **C. tripterus,** Linn. Tall Coreopsis.

Dry soil near streams. Malden, Ont., and islands in Detroit River. (*Maclagan.*)

(1152.) **C. verticiliata,** Linn.

Moist places and margins of swamps, western Canada. (*Gray.*)

(1153.) **C. lanceloata,** Linn.

North shore of Lake Superior. (*Dr. Pitcher.*) Lake Huron. (*Dr. Todd.*) In rich or damp soil, western Canada. (*Gray.*)

(1154.) **C. tinctoria,** Nutt.

Damp places in creeks and coulées, prairie region. South of Battleford and at the Hand Hills; also, in dry coulées east of the Cypress Hills. (*Macoun.*) South of Wood Mountain, and west fork of Milk River, not abundant, 49th parallel. (*Dawson.*)

295. BIDENS, Linn. (BUR-MARIGOLD.)

(1155.) **B. frondosa,** Linn. Common Beggar-ticks.

B. pilosa, Willd. Holmes Herb. McGill College.

Common in ditches and on moist, fertile soil, from Nova Scotia and New Brunswick to the Saskatchewan. (*Richardson.*)

(1156.) **B. connata,** Muhl. Swamp Beggar-ticks.

Swampy grounds and margins of rivers and ponds, from Nova Scotia and New Brunswick throughout Quebec and Ontario to the Saskatchewan, at Cumberland House. (*Richardson.*)

(1157.) **B. cernua,** Linn. Smaller Bur-marigold.

Swamps and ditches, from Nova Scotia and New Brunswick throughout Quebec and Ontario westward to the Saskatchewan and northward to Hudson Bay. (*Richardson.*) Very abundant in marshes on the upper part of Swan River and westward in the valleys of rivers to the Rocky Mountains. (*Macoun.*)

Var. **elata,** Torr. & Gray Fl. II., 352.

B. chrysanthemoides, Hook. Fl. I., 314.

Straits of De Fuca, on the North-West coast. (*Scouler.*)

(1158.) **B. chrysanthemoides,** Michx. Greater Bur-marigold.

Swamps and margins of shallow pools and in ditches. This species is credited with the same range as the last in all the eastern part of Canada, but is not recorded west of the Lake of the Woods. My impression is that this is a more southern species than *B. cernua,* and that the variety with four awns on the achenia should be placed with *B. cernua.* All our western forms seem to be *B. cernua* and it is probable that our northern ones also are that species.

(1159.) **B. Beckii,** Torr.

In still water in rivers and lakes. In the St. Lawrence near Point St. Charles, at Montreal. (*Holmes.*) Beauharnois Co., Q. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Railway Bay near Prescott, also Doxey's Bay, Rideau River, four miles from Ottawa, abundant. (*Billings.*) River Trent above Heely Falls; Bay of Quinte, above Flint's Mill, Belleville; also, Sydenham River above the falls, near Owen Sound, Ont. (*Macoun.*) Niagara River above the falls. (*David F. Day.*) Chippewa and Malden, Ont. (*Maclagan.*)

Lake of the Woods and Red River, Man. (*Dawson.*) Little Swan River and lakelets along the Porcupine mountains, Man. (*Macoun.*)

296. MADIA, Molina. (TAR-WEED.)

(1160.) **M. Nuttalii,** Gray.

Anisocarpus madioides, Nutt. Torr. & Gray Fl. II., 403.

Woods from California to British Columbia. (*Gray.*)

(1161.) **M. glomerata,** Hook. Fl. II., 24.

Amida hirsuta, Nutt. Torr. & Gray Fl. II., 406. Macoun's Cat. No. 994.

Plains of the Saskatchewan. (*Drummond.*) Swift Current Creek on the line of the C. P. R. near the station, N.W.T. (*J. M. Macoun, C. P. R. Coll.*) Foot hills of the West Butte, 49th parallel. (*Dawson.*)

Var. **gracilis,** Macoun.

Amida gracilis, Nutt. Torr. & Gray Fl. II., 405.

In the beds of dried up streams and bottoms of coulées. Swift Current Creek on the line of the C. P. R. (*J. M. Macoun, C. P. R. Coll.*) Small lake near Pincher Creek, N.W.T. (*Dawson.*) Along the upper part of Pile of Bones Creek and at Red Deer lakes west of the Elbow of the South Saskatchewan. (*Macoun.*)

(1162.) **M. dissitiflora,** Torr. & Gray.

On gravel or damp soil around Victoria, Vancouver Island. (*Dawson & Fletcher.*)

(1163.) **M. filipes,** Gray.

On gravelly soil in the vicinity of Victoria, Vancouver Island. (*J Richardson, Meehan & Fletcher.*)

297. JAUMEA, Pers.

(1164.) **J. carnosa,** Gray.

Coinogyne carnosa, Less. Torr. & Gray Fl. II., 410.

Shores of Puget Sound. (*Gray.*) Possibly at the southern point of Vancouver Island.

298. ERIOPHYLLUM, Lag.

(1165.) **E. cæspitosum,** Dougl.

Bahia lanata, DC. Torr. & Gray Fl. II., 375.
Actinella lanata, Pursh. Fl. II., 560.
Trichophyllum lanatum, Nutt. Hook. Fl. I, 315.

On rocky slopes at Yale, B.C. (*Macoun.*) Vicinity of Victoria, Vancouver Island. (*Meehan*).

Var. **leucophyllum,** Gray.

Bahia leucophylla, DC. Torr. & Gray Fl. II., 375.

On dry gravelly hill sides near Victoria, Vancouver Island. (*Macoun & Fletcher.*)

299. CHAENACTIS, DC.

(1166.) **C. Douglasii,** Hook. & Arn.

Hymenopappus Douglasii, Hook. Fl. I., 316.

On dry ground along sloping banks. On the banks of Belly River; at Wood Mountain on the shore of a saline lake, 49th parallel; also on the Chilcoten River west of the Fraser, B.C. (*Dawson.*) Nicola Valley, B.C. (*Fletcher.*)

300. HYMENOPAPPUS, L'Her. (HYMENOPAPPUS.)

(1167.) **H. filifolius,** Hook. Fl. I., 317.

H. tenuifolius, Eaton in Bot. King Exp. 173.

On dry sandy or gravelly soil. White Mud River, or Frenchmen's Creek, dry bank, 49th parallel. (*Dawson.*) Missouri Coteau in the Dirt Hills. (*Macoun.*)

301. HELENIUM, Linn. (SNEEZE-WEED.)

(1168.) **H. autumnale,** Linn. Sneeze-weed.

On alluvium in the valleys of the rivers and borders of lakes. At the Chats on the Ottawa. (*Mrs. Col. Chamberlain.*) Boucherville Islands, near Montreal. (*Holmes.*) Vicinity of Montreal and near Ottawa.

(*McGill Coll. Herb.*) Islands in Rice Lake and along the river Trent at Crow Bay; also, Lake Isaac and Red Bay, Lake Huron. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Niagara Falls and along the Detroit River. (*Maclagan.*) Near London, along the Thames. (*Burgess.*) Not uncommon throughout the prairie region and extending westward to the Pacific. (*Macoun.*) From Lake Huron to the Arctic Circle and from Hudson Bay to the Pacific. (*Hooker.*)

302. GAILLARDIA, Fourgeroux.

(1169.) **G. aristata,** Pursh.

G. bicolor, Lam. Hook. Fl. I., 315.

Common on dry soils from the eastern part of Manitoba to the Rocky Mountains and in the dry interior of British Columbia. The variety β. of Hooker has been collected in the Rocky Mountains by Dr. Dawson. The form from the Foot Hills of the Rocky Mountains has very large flowers often over two inches across, the rays are yellow and nearly all the leaves are entire. Another form has a very woolly involucre and nearly all the leaves deeply pinnatifided. The three forms are limited as follows:

(1) Flowers large, rays deep yellow and with a long limb, leaves nearly all entire.

(2) This form has also large flowers, but the rays have a tinge of purple at the base and the outer bracts are long and taper pointed.

(3) In this the rays are quite short and involucre and upper part of the peduncle quite woolly, nearly all the leaves are more or less pinnatifid. This form has a purplish disk and is always of small size.

303. ACTINELLA, Pers.

(1170.) **A. acaulis,** Nutt.

Galardia acaulis, Pursh. Fl. II., 743.

Dry gravelly soil, prairie region. West Butte, on a dry hill, 49th parallel; Fossil Coulée, Milk River Ridge. (*Dawson.*) On the Missouri Coteau, 49th parallel. (*Burgess.*)

(1171.) **A. Richardsonii,** Nutt.

Piradonia Richardsonii, Hook. Fl. I., 317.

Dry gravelly hillsides in the prairie region. About Carlton on the Saskatchewan. (*Drummond.*) On ridges west of Moose Moun-

tain, on the Dirt Hills, on ridges west of Long Lake, and the top of the Cypress Hills. (*Macoun.*) Bottom of Verdigris Coulée, and at Fossil Coulée, Milk River Ridge, Foot Hills of Rocky Mountains. (*Dawson.*)

304. DYSODIA, Cav. (FETID MARIGOLD.)

(1172.) **D. chrysanthemoides,** Lag.

Rare. A "railroad weed" at Fort Erie, Ont. (*David F. Day.*)

305. ACHILLEA, Linn. (YARROW.)

(1173.) **A. Millefolium,** Linn.

A. borealis, Bongard. Veg. Sitch., 149.
Ptarmica borealis, DC. Prodr. VI., 21.

Common in meadows and pastures, along the borders of woods and on grassy banks on mountains, and by streams from the Atlantic to the Pacific, and northward to the Arctic Sea. Introduced form in cultivated grounds. Greenland. (*Hook. Arct. Pl.*) Sitka. (*Rothr. Alask.*) A variety with rose colored rays is found in old gardens and often lives for a few years on waste heaps. London, Ont. (*Burgess.*) Annapolis Valley, N.S., along roadsides. (*Macoun.*)

Var. **lanata,** Koch.

A. tomentosa, Pursh. Fl. II., 319.

Along the Pacific Coast. Queen Charlotte Islands. (*Dawson.*)

(1174.) **A. multiflora,** Hook.

A. Ptarmica, Richard. Frankl. Journ. Ed. II., 33.

In river valleys. Woody country of sub-arctic America as far north as Fort Franklin. (*Richardson.*) In all river valleys from Lake Manitoba to the Rocky Mountains and northward to Lake Athabasca. (*Macoun.*) Qu'Appelle River at Police Barracks. (*J. M. Macoun C. P. R. Coll.*)

(1175.) **A. Ptarmica,** Linn.

Ptarmica vulgaris, DC. Prodr. VI., 23.

Introduced. Harbor Grace, Newfoundland. (*McGill Coll. Herb.*) Roadside at Truro, N.S.; along the Intercolonial Railway, a little east of Campbellton, N.B. (*Macoun.*) Looks like a native at River Charlo,

Restigouche, and at Kouckibouguac, Kent Co., N.B. (*Fowler's Cat.*) Isle of Orleans, Q. (*Hooker.*) Fields around Campbellton, N.B. (*Chalmers.*)

(1176.) **A. Sibirica.**

Ounalashka and Eschscholtz Bay. (*Rothr. Alask.*)

306. ANTHEMIS, Linn. (CHAMOMILE.)

(1177.) **A. arvensis,** Linn. Wild Chamomile.

Introduced. Halifax, N.S. (*Sommers.*) Buctouche, N.B. (*Fowler's Cat.*) Prof. Fowler says of this that it is without a strong scent. On this account I believe it to be *Matricaria inodora.*

(1178.) **A. tinctoria,** Linn.

On Ballast heaps, St. John, N.B. (*Hay.*) In meadows, Insane Asylum, London, Ont. (*Burgess.*)

307. MARUTA, Cass. (MAY-WEED.)

(1179.) **M. Cotula,** DC.

Anthemis Cotula, Linn. Hook. Fl. I., 318.

Naturalized and abundant along roadsides and in the streets of cities, towns, and villages, throughout all the settled parts of Canada.

308. CHRYSANTHEMUM, Linn. (OX-EYE DAISY.)

(1180.) **C. Leucanthemum,** Linn.

Leucanthemum vulgare, Lam. Macoun's Cat., No. 1000.

Naturalized in old meadows and pastures and by roadsides throughout the settled parts of Canada. An obnoxious weed in many sections of the eastern provinces and Ontario.

(1181.) **C. integrifolium,** Richards.

Leucanthemum integrifolium, DC.

Shores of the Arctic Sea and on the Copper Mountains in Lat. 67°. Probably on all the shores and islands. (*Richardson.*) Port Kennedy, Arctic Sea. (*Capt. Markham.*) Between the Coppermine River and Cape Turn-again, Lat. 67° 54′, Long. 115° 31′. (*Dease.*) Montreal Island,

Arctic Sea. Mouth of Back's Great Fish River. (*Stewart.*) Kotzebue Sound, island of St. Lawrence, and from Point Barrow to the Mackenzie River. (*Rothr. Alask.*)

(1182.) **C. arcticum,** Linn.

Leucanthemum arcticum, DC. Torr. & Gray Fl. II., 412.

Arctic Sea coast. (*Richardson.*) York Factory, Hudson Bay. (*Drummond.*) Mouth of the Churchill River, Hudson Bay. (*R. Bell.*) Between the Coppermine River and Cape Turn-again, Lat. 67° 54', Long. 115° 31' west. (*Dease.*) Montreal Island, Arctic Sea. (*McGill Coll. Herb.*) Norton Sound to Washington Inlet. (*Rothr. Alask.*)

(1183.) **C. segetum,** Linn. Corn Marygold.

Ballast heaps, St. John, and Carleton, N.B. (*Hay.*)

(1184.) **C. Parthenium,** Pers. Common Fever-few.

Leucanthemum Parthenium, Godron.

A garden escape in a few localities. Gardens, scarcely wild, N.B. (*Fowler's Cat.*) Waste heaps at Belleville and at Campbellford, Ont. (*Macoun.*) A weed in gardens at Port Colborne, Ont. (*David F. Day.*)

(1185.) **C. bipinnatum,** Linn.

Pyrethrum bipinnatum, Willd. DC. Prodr. VI., 60.
Tanacetum Kotzebuense, Bess. Rothrock's Alaska.

Cape Espenberg, Arctic America. (*Eschscholtz.*) Youcon Valley, Alaska. (*L. M. Turner.*)

(1186.) **C. Balsamitae,** Linn. Costmary.

Cultivated in gardens. An escape at Belleville, Ont. (*Macoun.*) On the roadside near Nelson, Ont. (*Millman.*) Along roadsides at Port Dover, Ont. (*Burgess.*)

309. MATRICARIA, Linn. (WILD CHAMOMILE.)

(1187.) **M. inodora,** Linn.

Pyrethrum inodorum, Smith. Hook. Fl. I., 320.

Harbor Grace, Newfoundland. Cornwalis, N.S. (*McGill Coll. Herb.*) Magdalen Islands in the Gulf of St. Lawrence. (*J. Richardson.*) Pictou, N.S. (*McKay.*) Along the Intercolonial at Truro and on ballast heaps at Pictou, N.S. (*Macoun.*) Lake Huron. (*Dr. Todd.*) (All the preceding refer to the introduced plant.) York Factory. (*Drummond.*) York Factory, Hudson Bay. (*R. Bell.*) Bear Lake, Lat. 66°. (*Richardson.*) Kotzebue Sound. (*Rothr. Alask.*) The indigenous

specimens are distinguished by dark brown (almost black) involucral bracts and longer and wider rays. This is certainly not identical with the European form. We agree with Torr. & Gray in thinking that the northern form is perennial. It is not annual as the specimens obtained by Dr. Bell amply prove. Better specimens may show that it is entirely distinct from the European plant.

Var. **nana,** Hook. Fl. I., 320.

Chrysanthemum grandiflorum, Hook. in Parry's 2nd Voy., 398.

Shores and islands of the Arctic Sea. (*Richardson.*) Near the mouth of Back's Great Fish River. (*Stewart.*)

Var. **eliguiata.** Seem.

Norton Sound. (*Rothr. Alask.*)

(1188.) **M. discoidea,** DC.

Tanacetum (?) suaveolens, Hook. Fl. I., 327.
Santolina suaveolens, Pursh. Fl. II., 520.

South Kootanie Pass, on Tobacco River, west slope of Rocky Mountains. (*Dawson.*) Straits of De Fuca. (*Scouler.*) On gravel along the Fraser River at Yale, B.C. (*Macoun.*) Near Victoria, Vancouver Island. (*J. Richardson.*) Abundant at Victoria. (*Fletcher.*) Sitka and Ounalashka. (*Rothr. Alask.*)

310. TANCETUM, Linn.

(1189.) **T. vulgare,** Linn. Common Tansy.

Naturalized throughout the country. Usually found in patches in old fields, along roadsides and in lanes near dwellings.

Var. **crispum,** DC.

Leaves more incised and crisped. Frequent in the same situations.

(1190.) **T. Huronense,** Nutt.

T. Douglasii, DC. Prodr. VI., 128.
T. pauciflorum, Richards. Hook. Fl. I., 327.
Omalanthus camphoratus, Less. Hook. Fl. I., 321.

York Factory, Hudson Bay. (*Drummond.*) Growing on sand at the mouth of Jupiter River, Anticosti. (*Macoun.*) On the Restigouche at the mouth of the Upsalquitch and near Campbellton. Shore of St. John River at Fredericton, and all along the river above Fredericton, N.B. (*Fowler's Cat.*) Point-aux-Pins, five miles above the Sault Ste.

Marie, and on the Sandy Islands, Lake Superior. (*Macoun.*) Ten miles west of Iroquois Point, Lake Superior. (*R. Bell.*) Along the coast of British Columbia. (*Jones.*) Queen Charlotte Islands. (*Dawson.*) Fort Youcon. (*Rothr. Alask.*)

311. ARTEMISIA, Linn. (WORM-WOOD.)

(1191.) **A. dracunculoides,** Pursh.

A. Dracunculus, Pursh. Fl. II., 521.
A. Nuttalliana, Bess. Hook. Fl. I., 326.

On dry gravelly and sandy prairies and open plains from Manitoba to the Rocky Mountains and northward to Peace River. (*Macoun.*) Plains of the Saskatchewan. (*Drummond.*) Chinaman's Ranche above Spence's Bridge, B.C. (*Fletcher.*) Chilcoten River west of the Fraser River, B.C. (*Dawson.*)

(1192.) **A. glauca,** Pall.

A. glauca, var. *fastigiata*, Bess. DC. Prodr. VI., 97.
A. dracunculoides, var. *incana*, Torr & Gray Fl. II., 416.

We understand this species to be what we have formerly considered an unbranched state of the preceding species. Should this view be correct, it ranges from Manitoba to the Rocky Mountains or throughout the whole prairie region. (*Macoun.*) Saskatchewan. (*Drummond.*)

(1193.) **A. borealis,** Pall. Var. **spithamœa,** Torr. & Gray Fl. II., 417.

A. borealis, Pall. var. *Purshii*, Hook. Fl. I., 326.
A. spithamœa, Pursh Fl. II., 522.

Labrador. (*Kolmeister.*) On exposed limestone rocks a little east of South-west Point Lighthouse, Anticosti. (*Macoun.*) Rocky Mountains. (*Drummond.*) Arctic shores of North America. (*Richardson.*) On both sides of Baffin's Bay and Davis Strait. (*Capt. Markham.*) Back's Great Fish River and Gulf of Boothia. (*Back.*) Greenland. (*Hook. Arct. Pl.*)

Var. **Wormskioldii,** Bess. Torr. & Gray Fl. II., 417.

Hudson Bay and mountains of Lower Canada [where it seemingly passes into *A. Canadensis* in Coll. *Allen.*] (*Gray.*) On high cliffs at Mont Louis, and on the summit of Mount Albert, Shickshock Mountains, Gaspé. (*Macoun.*) Islands along the north-west coast of America. (*Scouler.*) Sitka and Kotzebue Sound. (*Rothr. Alask.*)

(1194.) **A. Canadensis,** Michx.

A. campestris, Pursh Fl. II., 521.
A. desertorum, Hook. Fl. I., 325, in part.

Along sea beaches and on lake shores and by rivers throughout Canada. On gravelly ridges and sand dunes on the prairies and open plains and through the Rocky Mountains extending to the Pacific Coast. (*Macoun.*) From Hudson Bay across the wooded country northward to the Arctic Circle and west to the Pacific. (*Hooker.*)

(1195.) **A. caudata,** Michx.

Half Way Island, Detroit River, Ont. (*Maclagan.*) On dry exposed ridges western plains. On gravel ridge west of Fort Ellice, Man. (*Macoun.*)

(1196.) **A. cana,** Pursh. Sage Brush.

Plains of the Saskatchewan. (*Drummond.*) From the confluence of the Assiniboine and Qu'Appelle on arid clay or dry sand southwestwardly across the plains. Common westward from Old Wives Lakes to Calgary, and south to the 49th parallel. (*Macoun.*)

(1197.) **A. tridentata,** Nutt.

On very arid soil. Where this plant grows the soil needs irrigation. It is altogether unknown north of the 49th parallel, east of the Rocky Mountains. (*Macoun.*) Flathead River, B.C. (*Dawson.*)

(1198.) **A. trifida,** Nutt.

On very arid soil from, Spence's Bridge to Câche Creek, interior of British Columbia. (*Hill & Fletcher.*) Along the shore of Osoyoos Lake, B.C. (*Dawson.*)

(1199.) **A. longifolia,** Nutt.

On arid clay banks of Ribstone and Stoney creeks, east of Hand Hills, also at Old Wives Lakes and north of Cypress Hills, apparently rare, but possibly overlooked. (*Macoun.*)

(1200.) **A. discolor,** Dougl.

A. Ludoviciana, Bess. Hook. Fl. I., 322.

Rocky Mountains, and Arctic America. (*Richardson.*) Bow River Pass, Rocky Mountains. (*Macoun.*) South Kootanie Pass, 49th parallel; Nicola Valley, B.C. (*Dawson.*) On rocky banks at Yale, B.C. (*Macoun.*) Spence's Bridge, B.C. (*Fletcher & Hill.*)

(1201.) **A. Lindleyana,** Bess.

Probably along the southern boundary of British Columbia. Imperfect specimens with linear leaves and a spicate inflorescence have been referred here. Chilcoten River, B.C. (*Dawson.*)

(1202.) **A. Ludoviciana,** Nutt.

A. integrifolia, Pursh Fl. II., 520.

A. Purshiana, β. angustifolia, Bess. Hook. Fl. I., 323.

Banks of the Red River. (*Douglas.*) From Manitoba westward, quite common. (*Macoun.*) East and West Forks of Milk River, 49th parallel. This is the most common variety of "Sage" on the third prairie plateau and grows very abundantly on dry open plains and dry valleys. (*Dawson.*) Upper leaves or all of them entire, clothed above and below with *tomentum.*

Var. **gnaphalodes,** Torr. & Gray Fl. II., 420.

A. gnaphalodes, DC. Prodr. VI., 115.

Common on dry knolls throughout the prairie region, more especially westward. (*Macoun.*) Frequent along the 49th parallel; also, Garrett's Ranche, Old Man River. (*Dawson.*) Leaves serrate at the tips.

Var. **latiloba,** Nutt.

Rocky Mountains. (*Scouler.*) Spence's Bridge, B.C. (*Fletcher.*) Leaves very much lobed and almost glabrous above.

Var. **latifolia,** Torr. & Gray.

A. Purshiana, var. *a. latifolia,* Bess. Hook. Fl. I., 323.

On the plains of the Saskatchewan. (*Drummond.*) Common on the prairie south of Battleford and east of the Hand Hills. (*Macoun.*) Old Wives Lakes, N.W.T. (*J. M. Macoun C. P. R. Coll.*) Tobacco Plains, Kootanie Valley, B.C. (*Dawson.*)

Var. **Douglasiana,** Eaton in Bot. King Exp., 183.

A. Douglasiana, Bess. Hook. Fl. I., 323.

Banks of North Saskatchewan above Fort Carlton. Also, on the prairie twenty miles south of Battleford. (*Macoun.*) This form has wholly entire leaves which are linear lanceolate and almost acuminate.

(1203.) **A. vulgaris,** Linn. Mug-wort.

Throughout Canada. and as far north as the Arctic Circle. (*Richardson.*) The introduced form is found at Becscie River, Anticosti, and at Annapolis, N. S. (*Macoun.*) Waste grounds near houses, N. B. (*Fowler's Cat.*) Quite common along railways and in the neighborhood of towns and villages throughout Quebec and Ontario.

Var. **Californica,** Bess.

A form which is referred here was gathered in the neighborhood of Victoria, Vancouver Island, by Mr. Fletcher, in August, 1883. The plants are stout but not tall, and are thickly covered with leaves, which are smooth and green above but covered with white *tomentum* below. The greater number are serrate, but some of the lower ones are slightly lobed.

Var. **Tilesii.** Ledeb.

A. Tilesii, Ledeb. Torr. & Gray Fl. II, 421.

Arctic seashore between the Mackenzie and Coppermine rivers. (*Richardson.*) East coast of Hudson Bay. (*R. Bell.*) Fort St. Michaels and western and northern coasts. (*Rothr. Alask.*) Fort Selkirk, Youcon River, Lat. 62° 45′. (*Schwatka.*)

(1204.) **A. Richardsoniana,** Bess.

A. arctica, Bess. Hook. Fl. I., 323.
A. cæspitosa, Hook. Fl. I., 324.

From Bear Lake to the shores of the Arctic Sea. (*Richardson.*) Between the Coppermine River and Cape Turn-again. Lat. 67° 54′, Long. 115° 31′ west. (*Dease.*) Lake Beechy. (*Stewart.*)

(1205.) **A. Norvegica,** Fries.

A. Chamissoniana, var. *saxatilis*, Bess. Hook. Fl. I., 324.
A. arctica, Less. Torr. & Gray Fl. II., 423.

Alpine and sub-alpine region of the Rocky Mountains from Lat. 62–49°. (*Gray.*) Woods in the Rocky Mountains, Lat. 52°. (*Drummond.*) Cariboo mountains in northern British Columbia. (*Cowley.*) Klootch-oot-a Lake, B.C. (*Dawson.*)

Var. **Pacifica,** Gray.

A. Chamissoniana, Bess. Hook. Fl. I., 324, in part.

Arctic Sea shore. (*Richardson.*) Cape Lisburne and Point Hope, and possibly Sitka. (*Rothr. Alask.*)

(1206.) **A. glomerata,** Ledeb. Hook. Fl. I., 324.

Bay of St. Lawrence. (*Chamisso.*) Kotzebue Sound. (*Rothr. Alask.*) Arctic Alaska. (*Gray.*)

(1207.) **A. globularia,** Cham.

Ounalashka and island of St. Lawrence. (*Rothr. Alask.*) Arctic Alaska and islands. (*Gray.*) St. Paul's Island. (*Mrs. Macintyre.*)

(1208.) **A. Senjavinensis,** Bess.

Kotzebue Sound. (*Beechy.*)

(1209.) **A. biennis,** Willd.

This species has its home in the west where it is very abundant in the valleys of all the rivers and small streams. Of late it has been reported from all the eastern provinces, and is rapidly spreading by means of the railways to every part of the country. From Hudson Bay to the McKenzie River. (*Richardson.*) Dry interior of British Columbia. (*Dawson.*)

(1210.) **A. frigida,** Willd. Pasture Sage Brush.

A. frigida, Willd. Var. *Gmelinana*, Bess. Hook. Fl. I., 321.

Very abundant on dry exposed hills and river banks from Manitoba westward to the Rocky Mountains, and northwards to Peace River. West and south of the Cypress Hills this species is very common and makes up with *Eurotia lanata* much of the winter cattle feed in those districts. At Cornwall's, in the interior of British Columbia, where there is scarcely a blade of grass this plant produces abundance of herbage and is invaluable as a winter food plant. Both in British Columbia and east of the rockies, in the grazing country, this plant will yet be highly prized for its heat producing qualities during the coldest winter weather. Its northern limit as far as known to me is the northern bank of Peace River in Lat. 58°. Mackenzie River. (*McGill Coll. Herb.*)

(1211.) **A. Absinthium,** Linn. Wormwood.

Naturalized in numerous places by roadsides, in lanes and around dwellings from Newfoundland to the western part of Ontario. At Moose Factory, James Bay. (*Gray.*)

312. LUINA, Benth.

(1212.) **L. hypoleuca,** Benth.

In the Cascade Mountains, on the border of British Columbia. (*Lyall.*)

313. TUSSILAGO, Tourn. (COLTSFOOT.)

(1213.) **T. Farfara,** Linn.

Introduced and naturalized, by roadsides and in pastures in a few places in the Maritime provinces. Abundant in and around Yarmouth,

N.S. (*Macoun.*) Spreading from ballast in several places, N.B. (*Fowler's Cat.*) St. Stephen, N.B. (*Vroom*)

314. PETASITES, Tourn. (SWEET-COLTSFOOT.)

(1214.) **P. palmata,** Gray.

Nardosmia palmata, Hook. Fl. I., 308. Macoun's Cat., No. 826.
Tussilago palmata, Ait. Pursh Fl. II., 531.

In cedar swamps and bogs. Swamps and shady banks of streams from Newfoundland and Labrador to the Rocky Mountains and north to Bear Lake, Lat. 67°. (*Richardson.*) From Cape Breton, Nova Scotia, New Brunswick, Quebec, Ontario and westward through the prairie region and Rocky Mountains to British Columbia. (*Macoun.*)

(1215.) **P. sagittata,** Gray.

Nardosmia sagittata, Benth. Torr. & Gray Fl. II., 93. Macoun'sCat., No. 827.
Tussilago sagittata, Ait. Pursh Fl. II., 332.

Very abundant in swamps at Emerson and Totogon, Manitoba, and westward in boggy places to the Rocky Mountains, and throughout northern British Columbia. (*Macoun & Dawson.*) Hudson Bay to the swamps in the Rocky Mountains. (*Drummond.*) From Lake Superior (?) in Lat. 48° to Fort Franklin in Lat. 66°. (*Richardson.*) Abundant on dry clay banks, from Lytton to Spence's Bridge, B.C. (*Fletcher.*)

(1216.) **P. frigida,** Fries.

Nardosmia corymbosa, Hook. Fl. I., 308. Macoun's Cat., No. 828.
Nardosmia frigida, Hook. Fl. I., 307.
Tussilago frigida, Linn. Pursh Fl. II., 531.

From Lake Winnipeg in Lat. 52° to Fort Franklin in Lat. 66°. (*Richardson.*) Arctic America from Melville Island to Kotzebue Sound, and south to Fort Norman, in about Lat. 65°. (*Torr. & Gray.*) Ounalashka, Norton Sound and the northern coast of Alaska. (*Rothr. Alask.*) Arctic coast and west to the Aleutian Islands. (*Gray.*)

315. ARNICA, Linn. (ARNICA.)

(1217.) **A. cordifolia,** Hook.

Alpine woods of the Rocky Mountains, on the east side. (*Drummond.*) South Kootanie Pass, 49th parallel; western summit of the North Kootanie Pass; Flat Head River, B.C. (*Dawson.*) Bow River Pass;

also, woods along the Fraser above Boston Bar, B.C. (*Macoun.*) At the crossing of the Blackwater River, B.C. (*Dawson.*)

(1218.) **A. latifolia,** Bongard.

A. Menziesii, Hook. Fl. I., 331.

Alpine woods and rivulets of the Rocky Mountains. (*Drummond.*) Mountains in the Bow River Pass. (*Macoun.*) South Kootanie Pass, 49th parallel; Crow Nest Lake, Crow Nest Pass; also, Skagit River, B.C. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*) North-west coast of America. (*Menzies.*) Observatory Inlet. (*Scouler.*) Sitka. (*Rothr. Alask.*)

(1219.) **A. Chamissonis,** Less.

A. mollis, Hook. Fl. I., 231. Macoun's Cat., No. 1051.

Grand Falls of Nepisiquit River, N.B. (*Fowler's Cat.*) Tobique Narrows, N.B. (*Hay.*) Andover and Grand Falls, N.B. (*Wetmore.*) Very common on the upper part of the Ste. Anne des Monts River and on the upper slopes of Mount Albert, Gaspé. (*Macoun.*) Gros Cap, Lake Superior. (*R. Bell.*) South Kootanie Pass, 49th parallel. (*Dawson.*) Bow River Pass; also on mountains at Spence's Bridge, B.C. (*Macoun.*) Queen Charlotte Islands: (*Dawson.*) Ounalashka. (*Rothr. Alask.*) Fort Selkirk, Youcon River, Lat. 62° 45′. (*Schwatka.*) Bartlett Bay, Alaska. (*Meehan.*)

(1220.) **A. foliosa,** Nutt.

A. Chamissonis, Torr. & Gray Fl. II., 449, in part.
A. montana, Hook. Fl. I., 330, in part. Macoun's Cat., No. 1054.

Wooded country from the Saskatchewan to the Rocky Mountains. (*Drummond.*) From Fort Ellice westward in thickets and damp prairies to the Rocky Mountains and northward to the Peace River. (*Macoun.*) Eu-ti-a-kwe-ta-chick Lake, B.C. (*Dawson.*)

(1221.) **A. amplexicaulis,** Nutt.

Woods and shaded rocks, Oregon to British Columbia. (*Lyall.*) In woods at the Pine Pass, Lat. 55°. (*Dawson.*)

(1222.) **A. alpina,** Murr.

A. angustifolia, Vahl. Torr. & Gray Fl. II, 449. Macoun's Cat., No. 1049.
A. montana β. alpina, Linn. Hook. Fl. I., 330.

Labrador, and the Arctic coast to the Saskatchewan. (*Torr. & Gray.*) Very common in many parts of Manitoba, especially around and a little west of Brandon. (*Macoun.*) On the prairie south of Moose

Mountain. (*J. M. Macoun C.P.R Coll.*) Fossil Coulée, Milk River Ridge and in the South Kootanie Pass, 49th parallel. (*Dawson.*) Vicinity of Spence's Bridge on the Thompson River, B.C. (*Macoun & Hill.*) Fort Selkirk, Youcon River, Lat. 62° 45′. (*Schwatka.*) Crow Nest Pass, Rocky Mountains. (*Dawson.*) Top of Stuart Lake Mountain, B.C. (*Macoun.*) Melville Island. (*Capt. Markham.*) Back's River and Gulf of Boothia. (*Back.*) Between the Coppermine River and Cape Turn-again, Lat. 67° 54′, Long. 115° 31′ west. Vicinity of Fort Confidence, Lat. 66°. (*Dease.*) Upernavik, Lat. 73°. (*Dr. Kane.*) Greenland. (*Hook. Arct. Pl.*) The mountain specimens referred here are very woolly in every part and are altogether unlike the *alpina* of the plains, being covered with white wool, instead of a yellowish crisped or glandular pubescens which is found on all specimen of our prairie *alpina*.

(1223.) **A. obtusifolia,** Less.

Shumagin Islands. (*Harrington.*) Ounalashka. (*Rothr. Alask.*)

(1224.) **A. Unalaschkensis,** Less.

Aleutian Islands, and Behrings Island. (*Gray.*) Ounalashka. (*Rothr. Alask.*)

(1225.) **A. Sachalinensis,** Gray.

On the Island of Sachalin off the coast of Alaska. (*Gray.*)

316. CROCIDIUM, Hook.

(1226.) **C. multicaule,** Hook.

On grassy places around Victoria, Vancouver Island. (*Macoun & Dawson.*)

317. ERECHTITES, Raf. (FIRE-WEED.)

(1227.) **E. hieracifolia,** Raf. Fire-weed.

Senecio hieracifolius, Linn. Hook. Fl. II., 332.

Moist places in recently burned clearings. Very common throughout Newfoundland and Canada, and extending west to the Saskatchewan.

318. SENECIO, Linn. (GROUNDSEL.)

(1228.) **S. vulgaris,** Linn. Common Groundsel.

Waste and cultivated grounds, especially gardens. Very common

in the Maritime provinces and apparently spreading. Newfoundland, Labrador and Hudson Bay. (*Hooker.*) Not abundant in Ontario, but occasionally met with. Common in British Columbia. (*Macoun & Fletcher.*)

(1229.) **S. viscosus,** Linn. (Stinking Groundsel.)

Abundant and naturalized along the Intercolonial Railway in Nova Scotia, especially at Truro, New Glasgow, and Pictou, (*Macoun.*) Spreading at Shediac, Bathurst and other points, N.B. (*Fowler's Cat.*) Windsor Junction, N.S. (*Lawson.*)

(1230.) **S. sylvaticus,** Linn.

Of sparing occurrence in waste ground, Nova Scotia. (*Gray.*)

(1231.) **S. palustris,** Hook. Marsh Groundsel.

Mahone Bay, Lunenburg Co., N.S. (*Ball.*) ? Very doubtful. From the Saskatchewan to the extreme Arctic islands. (*Richardson.*) Rather common on the borders of saline marshes and lakes throughout the western part of the prairie region and northward to Lake Athabasca. (*Macoun.*) Norton Sound, Kotzebue Sound, Wainright Inlet and on the northern shore of Alaska. (*Rothr. Alask.*) English River, N.W.T. (*Back.*) Greenland. (*Hook. Arct. Pl.*)

Var. **congesta,** Hook. Fl. I., 334.

Chiefly in the Arctic regions. (*Richardson.*) Gulf of Boothia. (*Back.*) West of the Mackenzie River, along the coast. (*Dease.*)

(1232.) **S. Hookeri,** Torr. & Gray Fl. II., 438.

S. integrifolius, Hook. Fl. I., 335.

Woody country in Lat. 54° to the shores of the Arctic Sea. (*Richardson.*) Rocky Mountains, Lat. 52°. (*Drummond.*) Kotzebue Sound. (*Rothr. Alask.*) A specimen ticketed *S. Hookeri* from the Mackenzie River is in McGill Coll. Herb. It is extremely like a small form of *S. Pseudo-Arnica.* (*Macoun.*)

(1233.) **S. megacephalus,** Nutt.

Along Belly River. (*Dawson.*) Near the British boundary, Lat. 49°. (*Lyall.*)

(1234.) **S. lugens,** Richards.

Fort Confidence, Lat. 66°. (*Dease.*) Bloody Fall, Coppermine River; also, from Fort Franklin to the coast. (*Richardson.*) Middle branch of North Fork of Old Man River. (*Dawson.*) Bow River

Pass, Rocky Mountains; along the Fraser River above Boston Bar, B.C. (*Macoun.*) West side of the Rocky Mountains. (*Douglas.*) Kotzebue Sound and Cape Good Hope, also Fort Youcon. (*Rothr. Alask.*)

Var. **exaltatus,** Gray.

S. exaltatus, Torr. & Gray Fl. II., 439.

Crow Nest Pass, east of the Lake; also, western summit of North Kootanie Pass. Summit of Cascade Mountains near Hope, B. C. (*Dawson.*) On the Lower Fraser near New Westminster, B.C. (*Hill.*)

(1235.) **S. integerrimus,** Nutt.

On limestone rocks, Narrows of Lake Manitoba; on the prairie around Brandon, vicinity of Spy Hill and on the Souris Plain near the Dirt Hills and in Bow River Pass. (*Macoun.*) On the Souris Plain for 40 miles west of Moose Mountain Creek. (*J. M. Macoun C. P. R. Coll.*)

(1236.) **S. amplectens,** Gray.

South Kootanie Pass, 49th parallel. (*Dawson.*) Said by Eaton to be an extreme form of this species.

(1237.) **S. aureus,** Linn.

This species runs into numerous forms which pass into each other by insensible degrees. Under various varietal names it ranges from the Atlantic to the Pacific.

S. aureus, Linn. (Typical.)

S. gracilis, Pursh Fl. II., 529.

Radical leaves orbicular or roundish ovate, mostly cordate, crenate, serrate, petioled. Chiefly in swamps or wet meadows. Halifax, N.S. (*Sommers.*) Abundant in New Brunswick (no forms mentioned.) (*Fowler's Cat.*) Restigouche, N.B. (*Chalmers.*) Swamps and sandy woods along the Ste. Anne des Monts River, Gaspé; in Perry's swamp near Hilton, Brighton Township, Northumberland Co.; near Amherstburgh on Lake Erie, and 20 miles up the Kaministiquia River, west of Lake Superior. (*Macoun.*) Swamps, London, Ont., also at Emerson on the Red River. (*Burgess.*) Throughout Canada to the Arctic Circle and from Newfoundland and Labrador to the Rocky Mountains and the Pacific. (*Hooker.*) South Kootanie Pass, 49th parallel; Flat Head River, B.C. (*Dawson.*)

Var. **obovatus,** Torr. & Gray Fl. II., 442.

S. aureus β. gracilis, Hook. Fl. I., 333.
S. obovatus, Pursh Fl. II., 529.
S. Elliottii, Torr. & Gray Fl. II., 443.

Radical leaves varying from roundish-obovate to oblong-spatulate. This form has a very wide range and extends westward to the Chilcoten River in British Columbia. Frequent in Nova Scotia, Windsor Junction and Pictou. (*Lawson & McKay.*) Various points in Quebec and along the Gaspé coast; also, Ontario and throughout the prairie region to the Chilcoten River. (*Dawson.*)

Var. **borealis,** Torr. & Gray Fl. II., 442.

S. aureus, Hook. Fl. I, 333, in part.

Radical leaves thickish, mostly crenulate-toothed at the apex only. North-west angle of the Lake of the Woods. (*Macoun.*) Crow Nest Pass, Rocky Mountains; also on Cascade Mountains east of Hope, B.C. (*Dawson.*) Valley of the Buonaparte, and near Clinton, B.C. (*Macoun.*) Labrador to British Columbia. (*Gray.*)

Var. **discoideus,** Hook. Fl. I.. 333.

Rays wanting. Leaves of various forms. Labrador. (*Pursh.*) River Ste. Anne des Monts, Gaspé, and in sand on the margin of rivers in the prairie region. (*Macoun.*) Mackenzie River. (*Richardson.*) Along the Lower Fraser, B.C. (*Cowley.*)

Var. **Balsamitæ,** Torr. & Gray Fl. II., 442.

S. Balsamitæ, Muhl. Hook. Fl. I., 332.
S. pauperculus, Michx. Fl. II., 120.

Radical leaves, oval, oblong, spatulate and lanceolate. Achenia smooth or strigose puberulent. Common on rocks or sand. River de Brig, Anticosti. (*Macoun.*) Halifax, N.S. (*Sommers.*) Rocky shores of the Kennebeccasis, N.B. (*Hay.*) Various places in Quebec and Ontario, and westward to British Columbia. All the specimens examined have perfectly smooth achenia, except those collected on sand hills near Fort Ellice and on Boss Hill sand ridges west of Brandon, Manitoba. (*Macoun.*)

Var. **lanceolatus,** Oakes. Torr. & Gray Fl. II., 442.

This form has thin, lanceolate-oblong, radical leaves on long petioles. It is quite common in ditches and marshy places in many parts of Nova Scotia, especially between Truro and Windsor Junction, and on the South Eastern Railway between New Glasgow and the Gut of Canso. (*Macoun.*) Windsor, N.S. (*How.*) Hartland, Carleton Co., N.B. (*Hay.*)

Var. **subnudus,** Gray.

S. subnudus, DC. Prodr. VI., 428.
S. Cymbalaria, Pursh Fl. II., 530. (?)

Wet ground on mountains, Wyoming to British Columbia. The most depauperate form. (*Gray.*)

(1238.) **S. canus,** Hook.

Cineraria integrifolia β. minor, Pursh Fl. II., 528.

Banks of the Saskatchewan, rare. (*Drummond.*) Very abundant on many parts of the prairie region from the eastern part of Manitoba to the Rocky Mountains. (*Macoun.*) On the Souris Plain south of Moose Mountain. (*J. M. Macoun C. P. R. Coll..*) White Mud River, 49th parallel, and Fossil Coulée, Milk River Ridge. (*Dawson.*)

Var. *β.* Torr. & Gray Fl. II., 443.

Lake Huron. (*Dr. Todd, vide Hooker.*) Abundant in the vicinity of Spy Hill, west of Fort Ellice, Man. (*Macoun.*) Probably common on the prairies.

(1239.) **S. Fremonti,** Torr. & Gray Fl. II., 445.

On the Rocky Mountains in Lat. 49°. (*Lyall.*) In the South Kootanie Pass at an altitude of 6,500 feet. (*Dawson.*)

(1240.) **S. eremophilus,** Richards.

Woods of the Saskatchewan. (*Drummond.*) On the gravelly banks of Cedar Lake, Lat. 54°, and thence to Fort Franklin on the Mackenzie River. (*Richardson.*) Common from the Cypress Hills, in thickets and in river valleys westward to the Rocky Mountains and northward to Lake Athabasca, Lat. 59°. (*Macoun.*) Qu'Appelle Valley at the Police Station. (*J. M. Macoun C.P.R. Coll.*)

(1241.) **S. Jacobæa,** Linn. Common Ragwort.

Introduced. Very abundant along the Pictou and Truro Railway, especially in the cuttings between New Glasgow and Pictou, N.S. (*Macoun.*) Pictou and vicinity, a pernicious weed supposed to be injurious to cattle, N. S. (*McKay.*) Whycocomah, Cape Breton. (*Lindsay.*) Spreading rapidly at Newcastle and Miramichi, N.B. (*Fowler's Cat.*) Growing along the roadside near Burlington (Wellington Square), Ont. (*Burgess.*) This is evidently the *S. palustris* of Buchan's List in Canadian Journal.

(1242.) **S. Pseudo-Arnica,** Less.

Arnica maritima, Linn. Pursh Fl. II., 528.
A. Doronicum, Willd. Hook. Fl. I., 331.
A. (β) maritima, Willd. Hook. Fl. I., 331.

Newfoundland and Labrador, (*Hooker.*) Very abundant on gravel beaches along the coasts of Anticosti and Gaspé, and growing from a few inches to five feet high and with from one to sixteen large flowers in a corymb. (*Macoun.*) Coast of Queen Charlotte Islands. (*Dawson.*) North-west Coast. (*Nelson.*) Common on the western shore of Alaska; also on Chamisso Island. (*Rothr. Alask.*) Along the coast of Vancouver Island. (*Meehan.*)

(1243.) **S. resedifolius,** Less.

On the Rocky Mountains in the South Kootanie Pass at 6,500 feet, altitude ; also, western summit of the North Kootanie Pass. (*Dawson.*) On limestone at the mouth of Bear Lake River, and about Fort Norman and Fort Franklin. (*Richardson.*) Cape Lisburne and Kotzebue Sound. (*Rothr. Alask.*)

Var. **Columbiensis,** Gray.

Mucklung River, British Columbia. (*Mrs. Mackay.*)

(1244.) **S. frigidus,** Less. Hook. Fl. I., 334.

Newfoundland (?) and Labrador. (*Gray.*) Barren country from Lat. 64° to the shores of the Arctic Sea. (*Richardson.*) Kotzebue Sound, Cape Lisburne, and Island of St. Lawrence. (*Rothr. Alask.*) West of the Mackenzie River along the coast. (*Dease.*) Beechy Lake, Back's Great Fish River. (*Anderson.*)

(1245.) **S. triangularis,** Hook.

S. longidentatus, DC. Prodr. VI., 428.

Moist prairies among the Rocky Mountains. (*Drummond.*) House Mountain, west of Little Slave Lake. (*Macoun.*) Rocky Mountains, at an altitude of 6,000 feet, on the 49th parallel ; Michell Creek, Crow Nest Pass. (*Dawson.*) Sitka and Eschscholtz Bay. (*Rothr. Alask.*) Lake Lindeman, source of the Youcon River, Lat. 60°. (*Schwatka.*)

(1246.) **S. —— ?**

A small specimen in general appearance like *S. resedifolius* was gathered in the South Kootanie Pass by Dr. G. M. Dawson. It differs from the above species by having the lower part of the stem covered with white tomentum as well as the under side of the leaves which are almost pinnatifid. Better specimens are required before it can be satisfactorily determined.

(1247.) **S. hydrophilus,** Nutt.

In water or very wet ground, especially in brackish water, Montana to British Columbia. (*Gray.*)

319. CACALIA, Linn. (INDIAN PLANTAIN.)

(1248) **C. atriplicifolia,** Linn.

Senecio atriplicifolius, Hook. Fl. I., 332.

Canada. (*Cleghorn vide Hooker.*) Moist woodland, western Ontario. (*Torr. & Gray.*) Not collected recently.

(1249.) **C. tuberosa,** Nutt.

Marsh at the head of Chicken Bay, Lake Huron, Bruce Peninsula. (*Macoun.*)

Excluded Species.

Cacalia suaveolens, Linn, reported from Windsor, N.S., is *Erechtites hieracifolia,* Raf.

320. TETRADYMIA, DC.

(1250.) **T. canescens,** DC.

Hills and plains, along with *Artemisia tridentata,* N. Wyoming and British Columbia. (*Gray.*)

321. Arctium, Linn. (BURDOCK.)

(1251.) **A. Lappa,** Linn. Common Burdock.

Lappa major, Gærtn. Torr. & Gray Fl. II., 463.
L. officinalis, All. var. *major,* Gray, Manual, page 275. Macoun's Cat., No. 1071.

Naturalized throughout the settled parts of the country and becoming a pest on vacant lots in towns and cities. In the country places it is seen in too great profusion about farm houses.

Var. **tomentosum,** Gray.

Collected at Morrison's Mill, Fredericton; also, abundant at Richmond, Carleton Co., N.B. (*Vroom.*)

Var. minus, Gray. Lesser Burdock.

Pictou, N.S. (*McKay.*) A form which probably belongs here was found in some abundance at the railway station, Digby, N.S. (*Macoun.*)

322. CARDUUS, Tourn. (PLUMELESS THISTLE.)

(1252.) **C. nutans,** Linn. Musk Thistle.

Spreading from ballast at Chatham, N.B. (*Fowler's Cat.*)

(1253.) **C. crispus,** Linn. Welted Thistle.

Introduced, but scarcely naturalized. Sparingly in the streets of South Sidney, Cape Breton; and on ballast heaps at Pictou, N. S. (*Macoun.*) West side of Courtenay Bay, city of St. John, N. B. Apparently naturalized. (*Hay.*)

323. CNICUS, Vaill. (COMMON OR PLUMED THISTLE.)

(1254.) **C. lanceolatus,** Hoffm. Common Roadside Thistle.

Cirsium lanceolatum, Scop. Gray, Manual, page 273. Macoun's Cat., No. 1066.

Naturalized in pastures and along roadsides throughout Canada. Very abundant along the margin of woods and in half-cleared lands, in Ontario. Victoria, Vancouver Island. (*Fletcher.*)

(1255.) **C. Pitcheri,** Torr.

Cirsium Pitcheri, Torr. & Gray. Gray, Manual, page 273. Macoun's Cat., No. 1067.

Borders of fields near Fort William, Thunder Bay. (*Macoun.*)

(1256.) **C. undulatus,** Gray. Western Prairie Thistle.

Cirsium undulatum, Spreng. Gray Manual, page 273. Macoun's Cat., No. 1065.

C. Hookerianum, Nutt. Torr. & Gray Fl. II., 457.

Abundant on the western prairies from Manitoba to the Rocky Mountains and northward to the limits of the prairie. (*Macoun.*) Banks of the Saskatchewan. (*Drummond.*) Turtle Mountain, 49th parallel, at Garrett's Ranche, Old Man River, N.W.T.; also, Kootanie Valley, B.C. (*Dawson.*) Spence's Bridge, B.C. (*Fletcher.*)

(1257.) **C. pumilus,** Torr. (?)

Cirsium pumilum, Spreng. Gray, Manual, page 274.

This form is apparently quite distinct from *C. undulatus,* as it is

pubescent, not *tomentose*, with wide, crisped hairs on the stem, sparsely so on the upper side and very slightly below, except on the veins. Its leaves are undulate, but not pinnatifid and the margin is thickly covered with weak spines. Stem one flowered; flower purple, inner bracts an inch and a quarter long with broad tips having scarious or ciliate margins, these bracts are thickly covered with minute glands which give a powdery appearance to them. In general appearance the two forms have no resemblance whatever.

(1258.) **C. altissimus,** Willd. var. **discolor,** Gray.

Cirsium discolor, Spreng. Gray, Manual, page 273. Macoun's Cat., Nos. 1060 and 1068.

Dry fields and thickets not common. Bank of the St. Lawrence River three miles west of Prescott, Ont. (*Billings.*) Meadows and thickets at Belleville and Castleton, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Chippewa and Malden, Ont. (*Maclagan.*) English's Woods, not uncommon, London, Ont. (*Saunders.*) Abundant in many places along the Great Western Railway, between Sarnia and Hamilton. (*Macoun.*)

(1259.) **C. muticus,** Pursh.

Carduus muticus, Nutt. Hook. Fl. I., 302.
Cirsium muticum, Michx. Gray, Manual, page 273. Macoun's Cat., No. 1061.

Common in swamps. Newfoundland, Anticosti, Nova Scotia, New Bruswick and westward to the Saskatchewan. (*Macoun.*) Specimens from Anticosti and the Shickshock Mountains are different in habit from the western ones and agree with the *C. glutinosa* of Bigelow.

(1260.) **C. Drummondii,** Gray.

Carduus pumilus, Hook. Fl. I., 302.
Cirsium Drummondii, Torr. & Gray Fl. II., 459. Macoun's Cat., No. 1064.

Banks of the Saskatchewan and prairies of the Rocky Mountains. (*Drummond.*) From Fort Franklin, Lat. 66° to the Saskatchewan. (*Gray.*) From the head of Lake Winnipegoosis, westward throughout the wooded and mixed prairie country to the Rocky Mountains and Peace River. (*Macoun.*)

Var. **acaulescens,** Gray.

Cirsium acaule, var. *Americanum*, Gray. Proc. Acad. Philad. 1863.

Along the North Saskatchewan west of Fort Pitt; also on the prairie 30 miles south east of Battleford. (*Macoun.*)

(1261.) **C. foliosus,** Gray.

Carduus foliosus, Hook. Fl. I., 303.

Cirsium foliosum, DC. Torr. & Gray Fl. II., 461. Macoun's Cat., No. 1063.

Prairies of the Rocky Mountains. (*Drummond.*) South Kootanie Pass, 49th parallel; also, North Fork of Old Man River, Rocky Mountains. (*Dawson.*)

(1262.) **C. arvensis,** Pursh. Canada Thistle.

Carduus arvensis, Smith. Hook. Fl. I., 302.

Cirsium arvense, Scop. Gray, Manual, page 274. Macoun's Cat., No. 1062.

Naturalized throughout the country and become a pestilent weed on all badly cultivated farms. Many country roads in Ontario are almost impassable in summer owing to the prevalence of this pest.

(1263.) **C. Hookerianus,** Gray.

Carduus discolor, var. *fl. albis,* Hook. Fl. I., 302.

Upper wooded and sub-alpine region of the Rocky Mountains, north of Lat. 49°. (*Douglas & Bourgeau.*) At the base of the high limestone cliffs at the entrance to Bow River Pass. (*Macoun.*)

(1264.) **C. edulis,** Gray.

Wet or shady places, along the southern boundary of British Columbia. (*Gray.*)

(1265.) **C. Kamtschaticus,** Maxim.

Cirsium Kamtschaticum, Ledeb. DC. Prodr. VI., 644.

Atkha, one of the Aleutian Islands. (*Gray.*)

324. ONOPORDON, Vaill. (SCOTCH THISTLE.)

(1266.) **O. acanthium,** Linn.

Waste grounds generally escaped from gardens. Pictou, N. S. (*McKay.*) Buctouche and Bass River, N.B. Rare. (*Fowler's Cat.*) Vicinity of London, Ont. (*Burgess.*) Vicinity of St. Thomas, Ont. (*McGill Coll. Herb.*)

325. SAUSSUREA, DC.

(1267.) **S. alpina,** DC. Hook. Fl. I., 303, in part.

S. monticola, Richards. Hook. Fl. I., 303.

Elevated parts of the Rocky Mountains. (*Drummond.*) Eastern

summit of the North Kootanie Pass. (*Dawson.*) Rocky Mountains, Bow River Pass. (*Bourgeau.*)

Var. **Ledebouri,** Gray.

S. subsinuata, Ledeb. Ic. Fl. Alt., 60.
S. alpina var. *remotifolia,* Hook. Fl. I., 303.

North of the Saskatchewan to Bear Lake and northward to the Arctic Sea ; also on the Copper Mountains, in grassy plains, Lat. 67°, and on the coast between the Mackenzie River and Coppermine. (*Richardson.*) Kotzebue Sound, and from Point Barrow to the Mackenzie River. (*Rothr. Alask.*) Beechy Lake, Back's Great Fish River. (*Anderson.*)

326. CENTAUREA, Linn. (STAR THISTLE.)

(1268.) **C. nigra,** Linn. Knap-weed.

Naturalized in meadows and pastures eastward. Abundant in Nova Scotia, and New Brunswick and in eastern Quebec. University Park, Toronto. (*Macoun.*)

(1269.) **C. cyanus,** Linn. Bluebottle.

Escaped from gardens into fields and waste places at Belleville, Ont. (*Macoun.*) In wheat fields, Ottawa. (*Fletcher.*)

(1270.) **C. benedicta,** Linn. Blessed Thistle.

Cnicus benedictus, Linn. Gray, Manual, page 274. Macoun's Cat., No. 1059.

Bass River, N.B. Escaped from gardens. (*Fowler's Cat.*) West Point River, N.S. (*McGill Coll. Herb.*)

327. CICHORIUM, Tourn. (SUCCORY, ENDIVE.)

(1271.) **C. Intybus,** Linn. Chiccory.

Old fields and roadsides, naturalized in the province of Nova Scotia, New Brunswick and especially in Quebec. Becoming frequent along railways, and in towns and villages in Ontario. Victoria, B. C. (*Fletcher.*)

328. MICROSERIS, Don.

(1272.) **M. Bigelovii,** Gray.

Depauperate specimens collected on dry gravelly soil near Victoria, Vancouver Island, are referred here. Mr. Watson, curator of Dr.

Gray's Herbarium is doubtful of them. (*Macoun.*) Vicinity of Victoria. Vancouver Island. (*Meehan.*)

(1273.) **M. nutans,** Gray.

Wet grassy grounds, borders of British Columbia and Montana. (*Gray.*)

329. KRIGIA, Schreb. (KRIGIA.)

(1274.) **K. amplexicaulis,** Nutt.

Cynthia Virginica, Don. Torr. & Gray Fl. II., 469. Macoun's Cat., No. 1075.

Hyoseris amplexicaulis, Michx. Fl. II., 87.

Damp grassy thickets around Amherstburg, Ont. (*Macoun.*) Malden. and islands in Detroit River. (*Maclagan.*) Near Lake Winnipeg, (*Dr. Houghton.*)

(1275.) **K. Virginica,** Willd.

K. leptophylla, DC. Prodr. VII., 88.

Hyoseris Virginica, Linn. Michx. Fl. II., 88.

Sandy ground, western Ontario. (*Gray.*)

330. LAMPSANA, Tourn. (NIPPLE-WORT.)

(1276.) **L. communis,** Linn.

Spontaneous in a few localities but scarcely naturalized. Vicinity of Montreal. (*Maclagan.*) Belœil Mountain, Q. (*McGill Coll. Herb.*) In streets and gardens, Ottawa. (*Fletcher Fl. Ott.*) Along a public road near Norwood, Peterboro' Co.; border of a spring, Royston Park, Owen Sound, Ont. (*Macoun.*) In the vicinity of Dundas, Ont., where it is a common roadside weed. (*Burgess.*) Vicinity of Port Moody, B.C. (*Hill.*)

331. CREPIS, Linn.

(1277.) **C. occidentalis,** Nutt.

Foot Hills of the Rocky Mountains, Pincher Creek; and Kootanie Valley, near Wild Horse Creek. (*Dawson.*)

Var. **Nevadensis,** Kellogg.

On dry gravelly slopes, Spence's Bridge, Thompson River, B.C. (*Macoun.*) From Jackass Mountain to Câche Creek, B.C. (*Fletcher & Hill.*)

Var. **crinita,** Gray. Bot. Calif.

Foot Hills of the Rocky Mountains on Pincher Creek, and on the slopes of Nicola Valley, B.C. (*Dawson.*)

(1278.) **C. intermedia,** Gray.

C. acuminata, var. *gracilis,* Macoun's Cat., No. 1098.

Spence's Bridge, Thompson River, B.C. (*Macoun.*) Slopes of Nicola Valley, B.C. (*Dawson.*) From Lytton to Spence's Bridge along the Thompson River, B.C. (*Fletcher.*)

(1279.) **C. glauca,** Torr. & Gray.

Borders of saline lakes and in brackish marshes from Fort Ellice westward, especially to the west of the Touchwood Hills. (*Macoun.*)

(1280.) **C. runcinata,** Torr. & Gray.

C. biennis, β. Hook. Fl. I., 297, not Linn.
Hieracium venosum, L. Dawson, Bound. Rep., 365.

Saskatchewan to the prairies of the Rocky Mountains. (*Drummond.*) Abundant from Manitoba westward to the Rocky Mountains throughout the prairie region on saline soil; also abundant around salt springs at the head of Lake Winnipegoosis, on Red Deer River, Lat. 53°. (*Macoun.*) Red River prairie and Wood Mountain, 49th parallel. (*Dawson.*) Abundant on saline soil at Moose Mountain Creek. (*J. M. Macoun C. P. R. Col.*)

(1281.) **C. elegans,** Hook.

On shingle in the Bow River Pass and on gravel along the Bow River; also on gravel beaches of the Peace River, east of the mountains, Lat. 56°. (*Macoun.*) South Kootanie Pass, 49th parallel; on gravel along the Wigwam River, Rocky Mountains. (*Dawson.*) "Battures" of the Assiniboine River. (*Drummond.*) This must be a misprint for "Battures" of the Athabasca, as the former river has no "Battures" (gravel beds extending into the river) while the latter has, near Jasper House where Drummond was collecting.

(1282.) **C. nana,** Richards.

Barkhausia nana, DC. Prodr. VII., 156.

Barren grounds from Lat. 64° to the Arctic Sea and islands. (*Richardson.*) On the slaty debris of the Rocky Mountains. (*Drummond.*)

(1283.) **C. virens,** Linn.

On ballast, St. John, N.B. (*Fowler's Cat.*) Introduced.

332. HIERACIUM, Linn. (HAWKWEED.)

(1284.) **H. Pilosella,** Linn. Mouse Ear Hawkweed.

Dry sandy soil. Introduced into meadows near London, Ont. (*Burgess.*)

(1285.) **H. murorum,** Linn.

Apparently introduced in the Province of Quebec. (*Gray.*) Within the limits of the city of Quebec. (*Fletcher.*)

(1286.) **H. vulgatum,** Fries.

H. molle, Pursh. Fl. II., 503, not Jacq.
H. sylvaticum, Schlecht. Hook. Fl. I., 299.

Labrador. (*Kolmeister.*) Frequent along river margins on Anticosti, and along the Gaspé coast from Cape Rosier to Matane; also on the heights of Point Levis. (*Macoun.*) Point Levis. (*Shepperd.*) It is probable that this species is common on both sides of the Lower St. Lawrence and along the shores of the gulf. It is certainly indigenous.

(1287.) **H. umbellatum,** Linn.

H. Canadense, Michx. Var. *angustifolium,* Torr. & Gray Fl. II., 476, in part.

Magdalen Islands, Gulf of St. Lawrence. (*McKay.*) Apparently extending from the Gulf of St. Lawrence to the Pacific. River margins, Anticosti, common along the Gaspé coast; from Manitoba to the Rocky Mountains and north to the Peace River, Lat. 56°. (*Macoun.*) York Factory, Hudson Bay. (*R. Bell.*) Vicinity of Dunvegan, Peace River, Lat. 56°; Kit-a-man River, Kootanie Valley, Rocky Mountains; Chilcoten River, B.C. (*Dawson.*) From the Lower Fraser to Lytton B. C. (*Fletcher.*) From Lake Huron to Fort Franklin on the Mackenzie River in Lat. 66°, abundant. (*Hooker.*) Greenland. (*Hook. Arct. Pl.*)

(1288.) **H. Canadense,** Michx.

H. prenanthoides, Hook. Fl. I., 300, not Vill.
H. virgatum, fasciculatum, and macrophyllum, Pursh. Fl. II., 504.

River banks and in thickets frequent in Ontario. Halifax, N.S. (*Sommers.*) Rather rare in New Brunswick. (*Fowler's Cat.*) Common throughout Quebec and Ontario. The limits of this and the above species are not very well defined, but it is quite evident that there are two distinct forms. The Ontario one being *H. Canadense* as generally recognized; while the other, if not, *H. umbellatum* closely approaches that species.

(1289.) **H. scabrum,** Michx.

H. Gronovii, β. Hook. Fl. I., 300.

Dry sandy or rocky ground. Apparently common in Nova Scotia, New Brunswick, Quebec and Ontario, extending to Lake Superior and Lake Nipigon.

(1290.) **H. Gronovii,** Linn.

Rare in western Ontario, on dry sandy soil. Ancaster, near Hamilton, Ont. (*Logie.*) Rare at London. (*Saunders.*) Dry sandy woods near London. (*Burgess.*) Sandwich, Ont. (*Maclagan.*) Lake Huron. (*Dr. Todd.*)

(1291.) **H. longipilum,** Torr.

Open woods. Vicinity of Hamilton, Ont. (*Logie.*) Islands in the River St. Clair near Lake Huron. (*Hooker.*)

(1292.) **H. venosum,** Linn. Rattlesnake-weed.

Dry sandy soil. Vicinity of Niagara Falls in rich sandy woods and in woods at Point Edward, near Sarnia; abundant at Point-aux-Pins, at the entrance to Lake Superior. (*Macoun.*) Niagara River and Malden, Ont. (*Maclagan.*)

(1293.) **H. paniculatum,** Linn.

Papineau wood near Montreal. (*Dr. Holmes.*) Belœil Mountain, and Lundy's Lane, near Niagara. (*Maclagan.*) Vicinity of Hamilton, Ont. (*Logie.*)

(1294.) **H. Scouleri,** Hook.

On grassy slopes, Kit-a-man River, Kootanie Valley, Rocky Mountains. (*Dawson.*) By the Skuzzie River above Yale, B.C. (*Fletcher.*) Departure Bay, Vancouver Island. (*Meehan.*)

(1295.) **H. triste,** Cham.

Aleutian Islands. (*Gray.*)

(1296.) **H. gracile,** Hook.

H. triste, in part, Torr. & Gray, Fl. II., 478. Macoun's Cat. No. 1080.
H. arcticum, Frœl. DC. Prodr. VII., 209.

On the more elevated Rocky Mountains. (*Drummond.*) South Kootanie Pass, 49th parallel; eastern summit of North Kootanie Pass; Klootch-oot-a Lake and Tsi-tse Lake, Upper Blackwater River, B. C. (*Dawson.*) Elevated country near McLeod's Lake, Lat. 55°, B.C. (*Macoun.*) Ounalashka and Norton Sound. (*Rothr. Alask.*)

Var. **detonsum,** Gray.

Mountains of British Columbia. (*Gray.*)

(1297.) **H. albiflorum,** Hook.

H. Vancouverianum, Arvet-Touvet. Spicil. Hier., 10.

Alpine woods in the Rocky Mountains, north of Smoky River, Lat. 56°. (*Drummond.*) Rocky Mountains, 6,000 feet altitude, 49th parallel; Little Shuswap Lake, B.C. (*Dawson.*) Cascade mountains along the southern boundary of British Columbia. (*Lyall.*)

333. LEONTODON, Linn. (FALL DANDELION.)

(1298.) **L. autumnalis,** Linn.

Apargia autumnalis, Willd. Pursh Fl. II., 497.
Oporinia autumnalis, Don. DC. Prodr. VII., 108.

Naturalized and becoming abundant in Newfoundland, Nova Scotia, New Brunswick and Quebec. Normal School grounds, Toronto. (*Macoun.*) Greenland. (*Hook. Arct. Pl.*)

334. APARCIDIUM, Torr. & Gray.

(1299.) **A. boreale,** Torr. & Gray.

Leontodon boreale, DC. Prodr. VII., 102.

Sitka. (*Rothr. Alask.*) Wet meadows and bogs, Alaskan Islands. (*Gray.*)

335. TROXIMON, Nutt. (TROXIMON.)

(1300.) **T. cuspidatum,** Pursh.

Rather rare or possibly confounded with the next. From Fort Ellice westward to the Bow River. (*Macoun.*) Milk River and Fort McLeod, N.T.W. (*Dawson.*)

(1301.) **T. glaucum,** Nutt.

Macrorhynchus glaucus, Eaton, Bot. King Exp., 204. Macoun's Cat., No. 1100.

This species in various forms extends from Manitoba through the Rocky Mountains to the coast of the Pacific. The following attempt to limit the forms may or may not be strictly correct, but it tends to place them in groups for further study.

Var. **parviflorum,** Gray.

T. parviflorum, Nutt. Torr. & Gray Fl. II., 490.
T. glaucum, β. Hook. Fl. I., 300.

Involucre glabrous. Leaves lanceolate linear, generally entire, sometimes slightly hairy, near the base. Vicinity of Fort Ellice and west of the Touchwood Hills. (*Macoun.*) Belly River near Fort McLeod and Fossil Coulée, Milk River Ridge. (*Dawson.*) Along the Saskatchewan. (*Drummond.*)

Var. **dasycephalum,** Torr. & Gray.

T. glaucum, var. *a.* Hook. Fl. I., 300.
Ammogeton scorzoneræfolium, Schrad. DC. Prodr. VII., 98.

On dry prairies from Lat. 49° northward to the Arctic Coast. Saskatchewan and prairies of the Rocky Mountains to the Arctic Coast. (*Richardson.*) Abundant around Morley, Bow River, and eastward to he Cypress Hills. (*Macoun.*) South Kootanie Pass, and common in the mountains and Foot Hills from Lat. 49° to Bow River; also on the Chilcoten River, B.C. (*Dawson.*) West of McLeod's Lake, Lat. 55°, B.C. (*Macoun.*)

Var. **taraxacifolium,** Gray.

This variety seems to be intermediate between the other two forms, as it has laciniate leaves and a pubescent involucre. On dry gravelly soil close to Fort Ellice, Man. (*Macoun.*)

(1302.) **T. aurantiacum,** Hook.

Macrorhynchus troximoides, Torr. & Gray Fl. II., 491. Macoun's Cat., No. 1102.

Alpine prairies of the Rocky Mountains. (*Drummond.*)

(1303.) **T. humile,** Gray.

Specimens approaching this species were gathered at Victoria in May, 1875, but referred to *T. heterophyllus,* Nutt. They are identical with Hall's, No. 317, from Oregon, but quite distinct from *T. Chilense* No. 143, of Suksdorf, which is now considered a synonym of the former.

(1304.) **T. laciniatum,** Gray.

Macrorhynchus laciniatus, Torr. & Gray, Fl. II., 492.

On dry gravelly soil near Victoria, Vancouver Island. (*Macoun & Fletcher.*) Small specimen from Vancouver Island collected by Lyall. (*Gray.*)

(1305.) **T. grandiflorum,** Gray.

Macrorhynchus grandiflorus, Torr. & Gray Fl. II., 492. Macoun's Cat., No. 1103.

Along the Thompson River near Spence's Bridge, B.C. (*Fletcher.*)

(1306.) **T. heterophyllum,** Greene.

Macrorhynchus heterophyllus, Torr. & Gray Fl. II., 493. Macoun's Cat., No. 1101.

Vicinity of Victoria, Vancouver Island. (*Fletcher.*)

(1307.) **T. gracilens,** Gray.

South Kootanie Pass, 49th parallel; Foot Hills between the Forks of the Old Man River, Iroquois Creek, Pine Pass, Lat. 55°; Flat Head River; Tsi-tsult Mountains, B.C. (*Dawson.*) Dry places on the Fraser above Boston Bar, B.C. (*Fletcher.*) Cascade mountains, Lat. 49°. (*Lyall.*)

336. TARAXACUM, Hall. (DANDELION.)

(1308.) **T. officinale,** Weber.

T. Dens-leonis, Desf. Torr. & Gray Fl. II., 494. Macoun's Cat., No. 1090. *Leontodon Taraxacum,* Hook. Fl. I., 296.

Completely naturalized throughout Canada, and found wherever settlers have penetrated. The indigenous forms are arranged and characterized by Dr. Gray as below.

Var. **alpinum,** Koch.

Taraxacum latilobum, DC. Prodr. VII., 494 (?)

Outer involucral bracts ovate to broadly lanceolate, spreading, none conspicuously corniculate. Not uncommon along the Labrador coast, flowers usually very large. (*W. A. Stearns.*) Common in grassy places on Anticosti, and on the top of Mount Albert, Shickshock Mountains, Gaspé. In cool copses near Fort Ellice, Man., and northwestward in the wooded country to and beyond the Rocky Mountains. (*Macoun.*) Labrador to British Columbia. (*Gray.*)

Var. **glaucescens,** Koch.

Taraxacum ceratophorum, DC. Torr. & Gray, Fl. II., 495.

Outer involucral bracts lanceolate to linear, loosely erect or spreading, inner ones and sometimes outer with a corniculate appendage below the tip. Ounalashka and Norton Sound. (*Rothr. Alask.*) Greenland.

(*Hook. Arct. Pl.*) Specimens from the Rocky Mountains and British Columbia seem to belong here, as they have the corniculate appendage below the tip and glaucescent leaves. South Kootanie Pass, 49th parallel. (*Dawson.*) Crossing of the Blackwater River, Northern British Columbia. (*Macoun.*)

Var. **lividum,** Koch.

Taraxacum palustre, DC. Macoun's Cat., No. 1091.
Leontodon palustre, Smith. Hook. Fl. I., 296.

Outer involucral bracts ovate to ovate-lanceolate, all apt to be dark-colored in drying, obscurely or not at all corniculate. Western summit of the North Kootanie Pass, Lat. 49° 30'. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*) Departure Bay, Vancouver Island. (*Meehan.*) Arctic Coast and islands, and the Aleutian Islands, in various forms. (*Gray.*) Westernholme and below Bedevilled Beach, Lat. 76–78°. (*Dr. Kane.*) On both sides of Baffin's Bay and Davis Strait, and on Melville Island. (*Capt. Markham.*)

337. LACTUCA, Linn. (LETTUCE.)

(1309.) **L. Canadensis,** Linn. Wild Lettuce.

L. elongata, Muhl. Hook. Fl. I., 296.
L. longifolia, Michx. Fl. II., 85.

Rich soil in damp thickets. Quite common from Anticosti to thickets in the western prairie region.

(1310.) **L. integrifolia,** Bigel.

L. elongata, var. *integrifolia,* Torr. & Gray Fl. II., 496.

Leaves glabrous all undivided generally entire. Norton, N.B. (*Hay.*) Dry sterile soil at Kingston, N.S.; in the vicinity of Belleville; also on hill sides, North Hastings, Ont. (*Macoun.*) On dry soil, vicinity of Ottawa, Ont. (*Fletcher.*) Neighborhood of London, Ont. (*Burgess.*)

(1311.) **L. hirsuta,** Muhl.

L. elongata, var. *sanguinea,* Torr. & Gray Fl. II., 496.

Leaves often ciliate on the margin and always hirsute on the midrib below. Dry sandy woods east of Belleville, Ont., and abundant on sterile soil, Rice Lake Plains. (*Macoun.*) Sandy fields, London, Ont. (*Burgess.*) Vicinity of Ottawa, Ont. (*Fletcher Fl. Ott.*)

(1312.) **L. pulchella,** DC.

Mulgedium pulchellum, Nutt. Torr. & Gray Fl. II., 497. Macoun's Cat., No. 1104.
M. acuminatum, DC. Dawson Bound. Comissioner's Report, page 365.
Sonchus pulchellus, Pursh. Fl. II., 502.
S. Sibiricus, Hook. Fl. I., 293.

From Lake Huron. (*Dr. Todd.*) Throughout the whole central part of British North America to Fort Franklin in Lat. 66°. (*Richardson & Drummond.*) From the Lake of the Woods westwards to the Rocky Mountains and northwards to Peace River and Lake Athabasca. (*Macoun.*) From Turtle Mountain, 49th parallel, to the valleys of the Rocky Mountains, and interior of British Columbia. (*Dawson.*) From Spence's Bridge on the Thompson River to Câche Creek, B. C. (*Fletcher & Hill.*) Point Barrow to Mackenzie River. (*Rothr. Alask.*)

(1313.) **L. Floridana,** Gærtn.

Mulgedium Floridanum, DC. Torr. & Gray Fl. II., 498.
Sonchus Floridanus, Linn. Pursh. Fl. II., 501.

Islands in Detroit River. (*Maclagan.*)

(1314.) **L. leucophæa,** Gray.

Mulgedium leucophæum, DC. Torr. & Gray Fl. II., 499. Macoun's Cat., No. 1105.

Low, rich soil generally beside small brooks. Newfoundland. (*Torr. & Gray.*) Frequent on southern part of Anticosti and Gaspé coast. (*Macoun.*) Pictou, N.S. (*McKay.*) Low, wet grounds rather common, N.B. (*Fowler's Cat.*) Knowlton, Eastern Townships, Q. (*McGill Coll. Herb.*) Common about clearings and open places, River Rouge, Q. (*D'Urban.*) Mount Johnstone, near Lachine, Q. (*Maclagan.*) Frequent in central Ontario; north shore of Lake Superior, and in damp thickets from the Lake of the Woods westward to British Columbia. (*Macoun.*) Easily distinguished from *L. Canadensis* by its sordid pappus.

(1315.) **L. sativa,** Linn. Garden Lettuce.

Frequent on waste heaps and in corners of gardens, but never remaining more than a year or two. Apparently naturalized at Hamilton, Ont. (*Buchan.*)

338. PRENANTHES, Linn. (RATTLESNAKE-ROOT.)

(1316.) **P. alba,** Linn. White Lettuce.

P. rubricunda, Pursh. Fl. II., 449.
Nabalus albus, Torr. & Gray Fl. II., 480. Macoun's Cat., No. 1085.

Open grounds and borders of woods. Newfoundland. (*Cormack.*) Apparently common throughout the country from the Atlantic provinces and Anticosti to the woods along the Saskatchewan. It is probable that many of the eastern stations refer to the next species as all our Gulf specimens certainly do.

(1317.) **P. serpentaria,** Pursh. Fl. II., 499. Rattlesnake Root.

Nabalus albus, var. *serpentaria,* Torr. & Gray Fl. II., 480.
N. Fraseri, DC. Torr. & Gray Fl. II., 481,

Newfoundland. (*Cormack.*) Shore of Anticosti, at Salt Lake, and south westerly to West Point; also on the cliffs along the Gaspé coast at Rivière Pierce. (*Macoun.*) Vicinity of Quebec and at Sillery, Q. (*Shepperd.*) Lake Huron. (*Dr. Todd.*) Vicinity of London, Ont. (*Burgess.*) All the stem leaves are petioled in this species.

Var. **nana,** Gray.

Nabalus nanus, DC. Torr. & Gray Fl. II., 482.

On exposed rocky points and mountain tops. Close to the sea at the "Bake Apple Bog," Sydney Mines, Cape Breton; on exposed peaty soil at South-West Point Lighthouse, Anticosti; also on the summit of Mount Albert, one of the Shickshock Mountains, Gaspé. (*Macoun.*) Magdalen Islands, Gulf of St. Lawrence. (*McKay.*)

(1318.) **P. altissima,** Linn. Tall White Lettuce.

Nabalus altissimus, Hook. Fl. I., 294. Macoun's Cat., No. 1087.

Newfoundland. (*Cormack.*) This species seems to have nearly the same range as *P. alba,* but prefers a drier habitat and becomes more plentiful in western Ontario.

(1319.) **P. racemosa,** Michx. Fl. II., 84.

Nabalus racemosus, Hook. Fl. I., 294. Macoun's Cat., No. 1086.

Common on Anticosti and at Sydney mines, Cape Breton; also at the mouth of the Restigouche, opposite Campbellton, N.B. (*Macoun.*) Campbellton, N.B. (*Chalmers.*) At the mouth of the Kennebeccasis, in crevices of rocks, N.B. (*Fowler's Cat.*) Montreal and St. John's, Q. (*Maclagan.*) St. Helen's Island, Montreal. (*McGill Coll. Herb.*)

Malden, Ont. (*Maclagan.*) Shores of Lake Huron along the Bruce Peninsula, north shore of Lake Superior and westward on damp prairie and in thickets to Edmonton on the Saskatchewan. (*Macoun.*) Turtle Mountain, 49th parallel. (*Dawson.*)

(1320.) **P. alata,** Gray.

Nabalus alatus, Hook. Fl. I., 294.
N. Boottii, DC. Var. Dawson's Boundary Commission Report, p. 365.

Observatory Inlet and northwest coast. (*Scouler.*) Queen Charlotte Islands. (*Dawson.*) Ounalashka and Sitka. (*Rothr. Alask.*) Fort Wrangel, and Sitka. (*Meehan.*)

Var. **sagittata,** Gray.

South Fork of Belly River, growing in thickets; also, South Kootanie Pass, 49th parallel. (*Dawson.*)

339. SONCHUS, Linn. (SOW-THISTLE.)

(1321.) **S. oleraceus,** Linn. Common Sow-thistle.

S. ciliatus, Lam. DC. Prodr. VII., 185.

Waste places around dwellings and in gardens. Naturalized from Newfoundland to Manitoba and British Columbia. Departure Bay, Vancouver Island. (*Meehan.*)

(1322.) **S. asper,** Vill. Spiny Sow-thistle.

S. fallax, Wallroth. DC. Prodr. VII., 185.

Commoner than the last and found in company with it, but more frequently in cultivated fields.

(1323.) **S. arvensis,** Linn.

Abundant along roadsides and in fields from Newfoundland throughout the Maritime provinces and Quebec. Parliament Hill and other places around Ottawa. (*Fletcher Fl. Ott.*) Grounds of the Insane Asylum, London, Ont. (*Burgess.*) Vicinity of Hamilton, Ont. (*Buchan.*)

340. LYGODESMIA, Don.

(1324.) **L. juncea,** Don. Hook. Fl. I., 295.

Prenanthes juncea, Pursh. Fl. II., 498.

Dry plains of the Saskatchewan. (*Drummond.*) Dry, sandy or

gravelly hills from Pine Creek, Man., to Calgary. (*Macoun.*) Very common on dry soil, Souris Plain. (*J. M. Macoun, C. P. R. Coll.*) Abundant from a little east of Turtle Mountain to the Foot Hills of the Rocky Mountains, 49th parallel. (*Dawson.*)

(1325.) **L. rostrata,** Nutt.

Growing in damp sand amongst the sand hills, five miles north of "Big Stick Lake," north of Cypress Hills, close to a grove of *Populus monilifera.* August 28th, 1880. (*Macoun.*)

341. TRAGOPOGON, Linn. (GOAT'S BEARD, SALSIFY.)

(1326.) **T. pratensis,** Linn. Yellow Goat's Beard.

A weed in Todd's field, St. Stephen, N.B. (*Vroom.*) In the churchyard of the Prince's Street Church, Pictou, N.S. Growing luxuriantly and completely naturalized. (*McKay.*) Along the railway track near the St. Louis dam, Ottawa. (*Fletcher Fl. Ott.*)

(1327.) **T. porrifolius,** Linn. Salsify.

In the streets and waste places around Ottawa. (*Fletcher Fl. Ott.*) Common on waste heaps and around market gardens, Belleville, Ont. (*Macoun.*) Vicinity of London, Ont., along the railway tracks. (*Burgess.*) Vicinity of Strathroy, Ont. (*McGill Coll. Herb.*)

342. STEPHANOMERIA, Nutt.

(1328.) **S. minor,** Nutt.

Lygodesmia minor, Hook. Fl. I., 205.

South of Wood Mountain, on a dry clay bank, 49th parallel. (*Dawson.*) In the dry interior of British Columbia along the Thompson River. (*Fletcher.*)

343. HYPOCHÆRIS, Linn. (CAT'S EAR.)

(1329.) **H. radicata,** Linn. Long-rooted Cat's Ear.

Naturalized in the streets and vicinity of Victoria, Vancouver Island. (*Fletcher.*) It is probable that *H. glabra* is mixed with this species, as small specimens seem to be of that species.

Un-named Species of Compositæ.

(1330.) A poor specimen of what may be *Echinacea purpurea* was gathered on the shore of Lake Huron in July, 1871. Since then nothing like it has been seen. As the specimens are without rays and very immature, nothing certain can be predicated of them.

(1331.) In August, 1883, Mr. James Fletcher picked up in the neighborhood of Victoria, a small rayless composite, which at first sight might be referred to *Matricaria discoidea*, but which differs very materially from that species in many respects. It is evidently a denizen of ditches and muddy places, but the specimens are too few and incomplete to enable one to make a proper examination for their identification. Lower leaves laciniate, upper ones much less so. The whole plant quite smooth and branching at almost every leaf which sheaths both stem and branch.

LIII. LOBELIACEÆ. Lobelia Family.

344. LOBELIA, Linn. (LOBELIA.)

(1332.) **L. cardinalis,** Linn. Cardinal Flower.

Low swamps or marshy meadows and along streams. Low grounds near St. Andrews, N.S. (*Vroom.*) On Magaguadavic, Saint Croix, and tributaries, N.B. (*Matthew & Vroom.*) From Quebec westward to Owen Sound and north westward along the Georgian Bay. (*Macoun.*)

(1333.) **L. syphilitica,** Linn. Great Blue Lobelia.

Low, wet meadows and borders of marshes. Rather local in Ontario but frequent along the St. Lawrence and great lakes from Prescott to Owen Sound, and northward in the limestone districts. (*Macoun.*)

(1334.) **L. Dortmanna,** Linn. Water Lobelia.

A very remarkable species growing either in water or on the borders of ponds and lakes. In a small lake at North Sydney, Cape Breton. (*Macoun.*) Mahone Bay, Lunenburg Co., N.S. (*Ball.*) Vicinity of Halifax, N.S. (*Lawson.*) Shallow borders of ponds and lakes, rather rare, N.B. (*Fowler's Cat.*) Near Lake Mistassini. (*J. Richardson.*) Very abundant in Twelve Mile Lake and the Bushkong Lakes, Victoria Co., Ont. (*Macoun.*) Lake Joseph, Muskoka. (*Burgess.*) Vermillion Bay, C. P. R., with *Subularia aquatria.* (*Fletcher.*) Slave Lake, English River, and Portage la Loche, Lat. 57°. (*Richardson.*)

(1335.) **L. spicata,** Lam.

L. Claytoniana, Michx. Hook. Fl. II., 30.

In meadows and pastures rather rare. In meadows on both sides of the Bay of Quinte at Belleville, Ont. (*Macoun.*) Prince's Island, near Hamilton, Ont. (*Logie.*) Islands in Detroit River. (*Maclagan.*) Great Western Railway Track east of London, Ont. (*Saunders.*) Red Bay, Lake Huron. (*Macoun.*) Strathroy. (*McGill Coll. Herb.*) Vicinity of Toronto. (*Fowler.*)

Var. **hirtella,** Gray.

L. Claytoniana, Michx. Hook. Fl. II., 30, in part.

On the Saskatchewan, apparently rare. (*Drummond.*) On the prairie west of the Touchwood Hills and along the base of the Brandon Hills, Man. (*Macoun.*) Abundant on the Souris Plain, on the borders of marshes. (*J. M. Macoun, C. P. R. Coll.*) Turtle Mountain, Man. 49th parallel. (*Dawson.*)

(1336.) **L. Kalmii,** Linn. Kalm's Lobelia.

L. Nuttallii of Saunders's London List.
L. puberula of Logie's Hamilton List.

Wet, rocky banks on the margins of rivers and in marshes from Anticosti, Nova Scotia and New Brunswick throughout Quebec and Ontario and westward to the Upper Columbia Valley. (*Macoun.*) From Lake Huron, throughout Canada to the Saskatchewan and Hudson Bay, and in saline marshes in Lat. 60° (*Richardson.*) Frequent in the prairie region on saline marshy soil. (*J. M. Macoun, C. P. R. Coll.*)

(1337.) **L. inflata,** Linn. Indian Tobacco.

On dry, sandy soil in meadows, pastures, and by roadsides. Frequent throughout Canada from the Atlantic to Lake Huron. (*Macoun.*) Lake Huron to the Saskatchewan and Hudson Bay. (*Richardson.*)

LIV. CAMPANULACEÆ. Campanula Family.

345. SPECULARIA, Heister.

(1338.) **S. perfoliata,** A. DC. Venus' Looking-glass.

Campanula perfoliata, Linn. Pursh. Fl. I., 160.
C. amplexicaulis, Michx. Fl. I., 108.

Open gravelly or sandy soil and barren spots. On Taylor's Hill, Belleville, and in Prince Edward Co., at Ferry Point and Gibson's

Mountain, Ameliasburgh. (*Macoun.*) Fields in the vicinity of Hamilton, Ont. (*Logie.*) Drummondville, Ont. (*Maclagan.*) Niagara Falls. (*Burgess.*) Point Albino and Port Colborne, Lake Erie. (*David F. Day.*) North-west coast of America. (*Scouler.*) Sea Bird Bluffs, near Port Moody, B.C. (*Fletcher.*)

346. CAMPANULA, Linn. (BELL-FLOWER.)

(1339.) **C. pilosa,** Pall.

C. dasyantha, Bieb. Hook. Fl. II., 27.

Ounalashka and islands of Behring's Straits. (*Chamisso.*) Cape Prince of Wales and Ounalashka. (*Rothr. Alask.*) Alaska, Aleutian islands and northward. (*Gray.*)

(1340.) **C. lasiocarpa,** Cham.

Summit of northern Rocky Mountains, near Lake La Pierre. (*Drummond.*) Eliguch Lake, northern British Columbia. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*) Sledge and Hedge islands in Behring's Straits. (*Capt. Beechy.*) Kotzebue Sound and Ounalashka. (*Rothr. Alask.*)

(1341.) **C. uniflora,** Linn.

Shores and islands of the Arctic Sea from the eastern to the western extremity. (*Hooker.*) Alpine places in the Rocky Mountains. (*Drummond.*) Arctic regions from Labrador to the Aleutian islands. (*Gray.*) Kotzebue Sound, Cape Lisburne, and Ounalashka. (*Rothr. Alask.*) Cape Beaufort, Arctic Coast. (*Dr. Rae.*) On both sides of Baffin's Bay and Davis' Straits. (*Capt. Markham.*) Uppernavik. (*Dr. Kane.*) Greenland. (*Hook. Arct. Pl.*)

(1342.) **C. rapunculoides,** Linn.

Roadsides and waste places near dwellings. Naturalized and spreading. About St. John and St. Stephen, N.B. (*Hay & Vroom.*) Rather common around fences of old gardens at Truro, N.S., and in the vicinity of Belleville, Ont. (*Macoun.*) Waste ground, Ottawa. (*Fletcher.*)

(1343.) **C. Scheuchzeri,** Vill.

C. dubia, A. DC. Hook. Fl. II., 27.
C. linifolia, A. DC. Hook. Fl. II., 27.
C. rotundifolia, β. linifolia, Rich. in Frankl. Journ., page 6.

Alpine and sub-alpine or sub-arctic, Newfoundland, Labrador and Alaska. (*Gray.*) On rocks and peat bogs along the shores of Anti-

costi; also on the top of Mount Albert, Gaspé. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*) From Lake Huron throughout the wooded country to Lat. 64°. (*Richardson.*) Quite common in the whole prairie region extending from Manitoba to the Rocky Mountains. (*Macoun.*) Port Wentworth and Sledge Island, Behring's Straits. (*Menzies.*) Holsteinburg, Lat. 68°. (*Dr. Kane.*)

Var. **heterodoxa,** Gray.

C. linifolia var. *Langsdorffiana*, A. DC. Hook. Fl. II., 27.
C. pratensis, A. DC. Hook. Fl. II., 27.

Near the coast on the western side of Newfoundland. (*Pylaie.*) Arctic America from Greenland to the Aleutian islands. (*A. De Candolle.*) Queen Charlotte Islands. (*Dawson.*) Alaska and islands to the Shumegins. (*Gray.*) Sitka. (*Rothr. Alask.*) On both sides of Baffin's Bay and Davis' Straits. (*Capt. Markham.*)

(1344.) **C. rotundifolia,** Linn. Blue Bell, Hare Bell.

C. petiolata, *A.* DC. Hook. Fl. 27. (?)

Growing at Middle Bay, Belles Amour, and L'Anse Amour, Labrador. I have never heard of it being found on any of the islands. (*Butler.*) I have found it all along the shore at Forteau; it appears quite common there. (*W. A. Stearns.*) On rocky banks of rivers and sandy places from the Atlantic throughout the wooded country to and within the Rocky Mountains in Peace River Pass, Lat. 56°. (*Macoun.*) Throughout the wooded country to Lat. 64°. (*Richardson.*) Kootanie Valley within the Rocky Mountains. (*Dawson.*) Mountains in the Kicking Horse Pass. (*Macoun.*) Chilcat, Alaska. (*Meehan.*) Greenland. (*Hook. Arct. Pl.*)

(1345.) **C. aparinoides,** Pursh. Marsh Bell-flower.

In marshes and beaver meadows. Dennis Stream, near St. Stephen and St. George, N.B. (*Vroom.*) Grand Lake, N.B. (*Hay.*) Abundant throughout Quebec and Ontario, and extending to the Lake of the Woods. (*Macoun.*) From Lake Huron to the Saskatchewan. (*Drummond.*)

(1346.) **C. Scouleri,** Hook. Fl. II., 28.

Open grassy, woods and under firs. Vicinity of Victoria, Vancouver Island. (*Dawson.*) Departure Bay, Vancouver Island. (*Meehan.*) Grassy places vicinity of Victoria, Vancouver Island. Yale and Spuzzum, and above the Fraser River Crossing of C.P.R., B.C. (*Fletcher.*)

(1347.) **C. Americana,** Linn.

C. acuminata, Michx. Fl. I., 108.

On moist and broken rock between the Clifton House and the water, Niagara Falls. (*Macoun.*) St. Catharines and Malden, N.B. (*Maclagan.*) Woods near Cline's Mills, west of Hamilton, Ont. (*Logie.*) Rich woods, near London. (*Saunders & Burgess.*) Vicinity of Toronto. (*Fowler.*) Sandy ridge, Pelee Point, Ont. (*J. M. Macoun.*)

Note.

I confess that I am unable to limit *C. rotundifolia* and *C. Scheuchzeri,* as they are described in Dr. Gray's Synopsis of the Gamopetalæ. We have evidently two forms which are both referred to *C. rotundifolia.* My impression is that the true *C. rotundifolia* grows chiefly on river banks, while the other which I may call the boreal form is found on exposed shores, prairies and mountain tops. The form with linear or narrowly lanceolate entire cauline leaves I refer to *C. rotundifolia,* while the other with the stem-leaves more or less toothed much broader and the lower leaves never linear, I include, in *C. Scheuchzeri.*

347. HETEROCODON, Nutt.

(1348.) **H. rariflorum,** Nutt.

Shady and grassy places vicinity of Victoria, Vancouver Island. (*Cowley & Gray.*)

LV. VACCINIACEÆ. Huckleberry Family.

348. GAYLUSSACIA, HBK. (HUCKLEBERRY.)

(1349.) **G. dumosa,** Torr. & Gray.

Vaccinium dumosum, Dunal. DC. Prodr. VII., 566.

Newfoundland (*Gray.*) Sandy swamp, near North Sydney and at Sydney mines, Cape Breton. (*Macoun.*) North West Arm, near Halifax, N.S. (*Sommers.*) Peat bog near Pictou, N.S. (*McKay.*) In a peat bog near Richibucto, N.B. (*Fowler's Cat.*) St. Stephen, N.B. (*Vroom.*)

(1350.) **G. resinosa,** Torr. & Gray.

Vaccinium resinosum, Ait. Hook. Fl. II., 31.

Rocky or sandy woodlands or swamps, Newfoundland. Abundant in Nova Scotia, amongst rocks; on sandy barrens in New Brunswick, and frequent in bogs or on sand or rock in Quebec and Ontario. Lake Huron to the Saskatchewan. (*Drummond.*)

349. VACCINIUM, Linn. (BLUEBERRY OR CRANBERRY.)

(1351.) **V. stamineum,** Linn. Deerberry.

V. album, Pursh. Fl. I., 28, not of Linn.

Dry rocks, Thousand Islands in the St. Lawrence. (*Macoun.*) Whirlpool, below Niagara Falls. (*Maclagan.*)

(1352.) **V. Pennsylvanicum,** Lam. Early-fruiting Blueberry.

V. tenellum, Pursh. Fl. I., 288.

Dry hills and woods and sandy swamps from Newfoundland to the Rocky Mountains. Fruit abundant and valuable.

Var. **angustifolium,** Gray.

Labrador and Hudson Bay, also Newfoundland. (*Gray.*) Peat bogs, Salt Lake, Anticosti; top of Mount Albert, Shickshock Mountains, Gaspé; north-east coast of Lake Superior, above Michipicotin. (*Macoun.*) Shores of Lake St. John, Q. (*J. Richardson.*) Specimens from Mount Albert are very hairy on the midrib and ciliate on the margins.

(1353.) **V. Canadense,** Kalm. Canada Blueberry.

Very common in swamps and on sandy barrens, especially in the pineries throughout Canada from the Atlantic to the Rocky Mountains and northward to Hudson Bay and Bear Lake. This is our commonest species and has become quite a valuable fruit since the building of railways into the forest regions of Quebec and Ontario.

(1354.) **V. vacillans,** Solander. Low Blueberry.

Dry sandy woodlands and banks in western Ontario. Near Grenadier Pond, Toronto, and along the railway at Port Dover Junction, Ont. (*Macoun.*) Near the Waterdown Road, Hamilton, Ont. (*Logie.*) Vicinity of Toronto and London. (*Burgess.*)

(1355.) **V. corymbosum,** Linn. Swamp Blueberry.

V. dimorphum, Michx. Fl. I., 231.

Swamps and low woods from Newfoundland to western Ontario. (*Gray.*) About Quebec. (*Cleghorn.*) Lake Huron. (*Dr. Todd.*) Reported from many points, but varieties not specified.

Var. **amœnum,** Gray.

Rich, wet woods at Bismarck on the Canada Southern Railway, west of St. Thomas, Ont. (*Macoun.*) Vicinity of London. (*Burgess.*) Probably the western or southern form.

Var. **atrococcum,** Gray.

V. fuscatum, Gray, Manual Ed. I., 262.

Apparently the Quebec and eastern and northern Ontario form. Peat bogs and Mèr Bleue near Ottawa. (*Fletcher Fl. Ott.*) Peat bog five miles north of Colborne, Northumberland Co., Ont. (*Macoun.*) Vicinity of London, Ont. (*Burgess.*)

Var. **pallidum,** Gray.

V. pallidum, Gray, Man. Ed. I., 262.
V. vacillans, Sommers' Flora of Nova Scotia, page 200, 1876.

Grassy and rocky ground not rare. Point Pleasant, near Halifax, N S. (*Macoun.*) Halifax, N.S. (*Lawson.*)

(1356.) **V. uliginosum,** Linn. Bog Blueberry.

In mountain bogs and exposed shores below, Lat. 50°. From Newfoundland, Labrador, Anticosti, Skickshock Mountains and thence westward to the Pacific and northward to the Arctic Sea. Quebec; Gomin swamps, near Rivière-du-Loup, Q. (*Thomas.*) On exposed rocks north-east coast of Lake Superior, above Michipicotin, and in a peat bog near Port Arthur, also at McIntyre's Bay, Lake Nipigon. (*Macoun.*) North-east coast of Hudson Bay. (*R. Bell.*) Sitka, Ounalashka, Kotzebue Sound, and the northern coast. (*Rothr. Alask.*) Bartlett's Bay, Alaska. (*Meehan.*) Northumberland Strait north of Hudson Bay. (*Capt. Markham.*) Back's Great Fish River. (*Capt. Back.*) Greenland. (*Hook. Arct. Pl.*) Fiske Fiord, Disco, Proven, Uppernavik, and Smith's Sound, Lat. 78°. (*Dr. Kane.*)

Var. **mucronatum,** Herder.

Alaska and Aleutian Islands to Behring's Straits. (*Gray.*)

(1357.) **V. salicinum,** Cham.

Ounalashka, in moss. (*Chamisso.*)

(1358.) **V. cæspitosum,** Michx. Dwarf Bilberry.

A dwarf shrub growing on grassy and exposed ridges or mountains, abundant on the elevated plains west of Edmonton and through the Rocky Mountains into northern British Columbia. On hillsides, Labrador. (*Butler.*) Anticosti, at the mouth of Jupiter River; on Mount Albert, Gaspé; on rocks above the falls of Montreal River, north-east coast of Lake Superior; Cypress Hills and Bow River Pass and northward along the Foothills to Little Slave Lake and westward to MacLeod's Lake, B.C. (*Macoun.*) Dean or Salmon River, B.C. (*Dawson.*) Sitka. (*Rothr. Alask.*)

Var. **cuneifolium,** Nutt.

V. cæspitosum, var. *angustifolium,* Gray.

British Columbia and east to Lake Superior. (*Gray.*) Thickets and grassy places near Victoria, Vancouver Island. (*Macoun & Fletcher.*)

(1359.) **V. Myrtillus,** Linn. Whortleberry, Bilberry.

V. myrtilloides, Watson, Bot. King, Exp., 209.

Rocky Mountains and north-west to Alaska. (*Gray.*) Sitka. (*Rothr. Alask.*)

Var. **microphyllum,** Hook.

Very abundant in the woods along Kicking Horse River, B.C. (*Macoun.*) Alpine woods near the Height of Land and Columbia Portages. (*Drummond.*) Western summit of North Kootanie Pass. Is-ga-chuz Range, head waters of Black River. Altitude, 5,000 feet. (*Dawson.*)

(1360.) **V. myrtilloides,** Gray. Var. **membranaceum,** Dougl.

V. myrtilloides, Hook. Fl. II., 32, in part only. The eastern references apply to a form of *V. Pennsylvanicum.*

Damp woods, Lake Superior to British Columbia. (*Gray.*) South Kootanie Pass, 49th parallel; Flat Head River, B.C.; eastern summit of the North Kootanie Pass. Iltasyouco River and Cascade Mountains, B.C. (*Dawson.*) Vicinity of Yale and on high rocky hills along the Telegraph Trail, and on Stuart Lake Mountain and Mount Selwyn, Peace River Pass. (*Macoun.*) Cariboo Mountains, B.C. (*Cowley.*) Sitka. (*Rothr. Alask.*)

Var. **rigidum,** Hook. Fl. II., 32.

This form has rigid not membranaceous leaves, has a more compact habit and has not glabrous, but slightly pubescent branchlets. South Kootanie Pass on the British Columbia side of the summit. (*Dawson.*) On the top of House Mountain south of Little Slave Lake, and in alpine woods, Kicking Horse Pass. (*Macoun.*)

(1361.) **V. ovalifolium,** Smith.

V. Chamissonis, Bong. Rothr. Alask., 450.

In some abundance on the top of Mount Albert at an altitude of nearly 4,000 feet, Gaspé, Q. (*Macoun.*) Has been found on the south shore of Lake Superior. (*Robbins.*) North-west coast of America.

(*Menzies.*) Woods at the junction of the Portage River with the Columbia (*Douglas.*) Sitka. (*Rothr. Alask.*) Ounalashka. (*Gray.*) Fort Wrangel, Alaska. (*Meehan.*)

(1362.) **V. parvifolium,** Smith.

Shady and low woods near the coast of British Columbia to Alaska and the Aleutian Islands. (*Gray.*) Great Shuswap Lake, B.C. (*Dawson.*) In thickets at New Westminster, on the Lower Fraser, B.C. (*Macoun.*) At and near Spuzzum, above Yale, B. C. (*Fletcher.*) Lake Lindeman, source of the Youcon River, B. C., Lat. 60°. (*Schwatka.*)

(1363.) **V. ovatum,** Pursh.

In rocky places on the North-west coast, Lat. 49°. (*Scouler.*) Vancouver Island. (*Gray.*) Vancouver Island or southern British Columbia. (*Cowley.*)

(1364.) **V. Vitis-Idæa,** Linn. Cowberry. Mountain Cranberry.

Very abundant from the Atlantic to the Pacific, producing enormous quantities of fruit, which are invaluable as a spring food for birds on their return from the south. The only parts of Canada where it is not found are southern Ontario and the prairie region. It extends north to Greenland and the islands in the Arctic Sea. Greenland. (*Hook. Arct. Pl.*)

350. OXYCOCCUS, Pers. (LOW BUSH CRANBERRY.)

(1365.) **O. vulgaris,** Pursh. Small Cranberry.

Vaccinium Oxycoccus, Linn. Macoun's Cat., No. 1132.

Sphagnous swamps around the sub-arctic zone, from Newfoundland to the Pacific and south to the Canadian boundary. This species is easily distinguished from the next by its small revolute leaves and terminal fascicle of flowers. Greenland. (*Hook. Arct. Pl.*)

(1366.) **O. macrocarpus,** Pursh. Large American Cranberry.

Vaccinium macrocarpon, Ait. Macoun's Cat., No. 1139.

Bogs and especially on the margins of ponds and small lakelets, in the soft mud. Newfoundland, Anticosti, Nova Scotia and New Brunswick, thence westward throughout Quebec and Ontario to Thunder Bay. (*Macoun.*) Throughout Canada to the Saskatchewan. (*Richardson.*) Ungava Bay and Mackenzie River. (*McGill Coll. Herb.*)

351. CHIOGENES, Salisb. (CREEPING SNOWBERRY.)

(1367.) **C. hispidula,** Torr. & Gray.

Vaccinium hispidulum, Michx. Fl. I., 228.
Gaultheria serpyllifolia, Pursh. Fl. I., 283.
G. hispidula, Muhl. Hook. Fl. II., 36.

Abundant in damp, mossy woods creeping over logs, flowering very early. Labrador, Newfoundland, Anticosti, Nova Scotia and New Brunswick, thence westward to the west side of the Rocky Mountains at the sources of the Columbia. (*Drummond.*)

LVI. ERICACEÆ. HEATH FAMILY.

352. ARBUTUS, Linn.

(1368.) **A. Menziesii,** Pursh. Madroña.

A tall and beautiful tree with evergreen leaves and by exfoliation a reddish bark. Coasts of Vancouver Island and British Columbia. Puget's Sound and North-west Coast. (*Menzies.*) Coasts around Victoria. (*Dawson.*) Departure Bay, Vancouver Island. (*Meehan.*) Skagit River, B.C. (*Dawson.*) Vicinity of Victoria. (*J. Richardson.*)

353. ARCTOSTAPHYLOS, Adns. (BEARBERRY.)

(1369.) **A. alpina,** Spreng. Alpine Bearberry.

Arbutus alpina, Linn. Hook. Fl, II., 37.

Newfoundland. (*Cormack.*) Labrador. (*McGill Coll. Herb.*) Southwest Point, and mouth of Jupiter River, Anticosti; Summit of Mount Albert, 4,000 feet altitude, Gaspé, Q.; Bow River Pass and Kicking Horse Pass, Rocky Mountains. (*Macoun.*) Throughout the wooded country Lat. 54°–64°. (*Richardson.*) Alpine swamps of the Rocky Mountains. (*Drummond.*) Ounalashka, Norton Sound to Point Barrow; also on the Arctic Coast. (*Rothr. Alask.*) Northumberland Strait. (*Capt. Markham.*) Greenland. (*Hook. Arct. Pl.*) Back's Great Fish River. (*Capt. Back.*) West of Mackenzie River. (*Pease.*) Both Hooker and Gray state that the berries of this species are black, on the contrary, those on specimens obtained on Anticosti and the Rocky Mountains are bright red.

(1370.) **A. Uva-ursi,** Spreng. Bearberry, Kinnikinick.

Arbutus Uva-ursi, Linn. Hook. Fl. II., 37.

Rocky or sandy soil from Newfoundland to the Pacific and north to Fort Franklin, Lat. 64°. (*Richardson.*) This species is found in all suitable localities throughout the country and in the north-west and north its fruit is eaten in quantities by partridge and prairie chickens. Greenland. (*Hook. Arct. Pl.*)

(1371.) **A. tomentosa,** Dougl.

Arbutus tomentosa, Pursh. Hook. Fl. II., 36.

Dry and rocky hills of the North-West Coast. (*Douglas.*) Vancouver Island, or southern British Columbia. (*Cowley.*)

354. GAULTHERIA, Linn. (AROMATIC WINTERGREEN.)

(1372.) **G. Myrsinites,** Hook.

Rocky Mountains, Lat. 52–54°. (*Drummond.*) Not noticed by late collectors.

(1373.) **G. ovatifolia,** Gray.

Wooded banks of streams and cañons of the Cascade Mountains, borders of British Columbia. (*Lyall.*) This is a new species lately separated from the preceding by Dr. Gray.

(1374.) **G. procumbens,** Linn. Wintergreen.

In sandy swamps or low woods on hummocks. Newfoundland, throughout the Maritime provinces, Quebec and Ontario to Owen Sound, Ont.; also, woods near Rat Portage. (*Macoun.*) In the Muskoka District, Ont. (*Burgess.*) Lake of the Woods. (*Dawson.*) Lake Superior. (*Capt. Back.*)

(1375. **G. Shallon,** Pursh. Salal.

Shady woods, British Columbia, along and near the coast. (*Gray.*) In woods on Yale Mountain, B.C. (*Macoun.*) Vicinity of Victoria, and on Queen Charlotte Islands. (*Dawson.*) Abundant in woods at Port Moody and along the Fraser River, B.C. (*Hill & Fletcher.*)

355. CASSANDRA, Don. (LEATHER LEAF.)

(1376.) **C. calyculata,** Don.

Andromeda calyculata, Linn. Hook. Fl. II., 39.

Bogs and swamps, and borders of slow streams, ponds and lakelets. Labrador, Newfoundland, Anticosti and the Maritime provinces, thence westward throughout Quebec and Ontario, and through the wooded country to northern British Columbia. (*Macoun.*) Northward into part of the barren country. (*Richardson.*) Kotzebue Sound. (*Rothr. Alask.*)

356. CASSIOPE, Don. (CASSIOPE.)

(1377.) **C. Stelleriana,** DC.

Andromeda Stelleriana, Pall. Hook. Fl. II., 37.
Menziesia empetriformis, Pursh. Fl. I., 265, not Smith.

North-west Coast of America, probably on Bank's Island. (*Menzies.*) North-west Coast, Sitka to Behring's Straits. (*Gray.*) Sitka. (*Rothr. Alask.*)

(1378.) **C. hypnoides,** Don.

Andromeda hypnoides, Linn. Hook. Fl. II., 37.

Labrador. (*Morrison.*) Summit of Mount Albert, Gaspé, Q., in shaded ravines, where snow lies nearly ten months. (*Macoun.*) North-west Coast. (*Nelson vide Hooker.*) On both sides of Baffin's Bay and Davis' Straits. (*Capt. Markham.*) Greenland. (*Hook. Arct. Pl.*)

(1379.) **C. lycopodioides,** Don.

Andromeda lycopodioides, Pall.

Aleutian Islands south to Oregon. (*Gray.*) Ounalashka. (*Rothr. Alask.*)

(1380.) **C. Mertensiana,** Pall.

Andromeda cupressina, Hook. Fl. II., 38.

Abundant on the upper wooded slopes of the mountains in Kicking Horse Pass, B.C. (*Macoun.*) Rocky Mountains north of Smoky River, Lat. 56°. (*Drummond.*) Tsi-tsult Mountains, B.C. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*) Bartlett Bay, Alaska. (*Meehan.*) Sitka. (*Rothr. Alask.*)

(1381.) **C. tetragona,** Don.

Andromeda tetragona, Linn. Hook. Fl. II., 38. Macoun's Cat., No. 1153.

From Labrador on the east to the Rocky Mountains on both sides. (*Kolmeister & Douglas.*) From Lat. 54° to the Arctic Islands. (*Richardson.*) Northern Rocky Mountains to the Arctic regions. (*Gray.*) Bartlett Bay, Alaska. (*Meehan.*) Island of St. Lawrence, Kotzebue Sound to Point Barrow, and on the Arctic coast. (*Rothr. Alask.*) Repulse Bay. (*Dr. Rae.*) Buchanan Island, and Melville Island. (*Capt. Markham.*) Back's Great Fish River. (*Capt. Back.*) Between the Coppermine and Cape Turn-again, Lat. 67° 54′, Long. 115° 31′ west; also at Fort Confidence, Lat. 67°. (*Dease.*) Disco, Proven, Fox Inlet, Bedevilled Beach, from Lat. 70-80°. (*Dr. Kane.*) Greenland. (*Hook. Arct. Pl.*)

357. EPIGÆA, Linn. (MAYFLOWER.)

(1382.) **E. repens,** Linn. Trailing Arbutus.

Gravelly, rocky or sandy woodlands, in the shade of evergreens. Abundant in Newfoundland and the Maritime provinces, Quebec and northern Ontario and westward to the west end of Lake Superior and northward to the height of land. (*Macoun.*) Westward to the Saskatchewan. (*Drummond.*)

358. ANDROMEDA, Linn. (ANDROMEDA.)

(1383.) **A. polifolia,** Linn.

A. rosmarinifolia, Pursh. Fl. I., 291. Narrow-leaved form.

Peat bogs, swamps, borders of marshes and ponds from the Atlantic to the Pacific, and northward to the Arctic Sea. This species, although, so widely distributed retains its form without variation in all latitudes. Young and late shoots have wider leaves than the normal form but that is all. Greenland. (*Hook. Arct. Pl.*)

(1384.) **A. ligustrina,** Muhl.

A. paniculata, Ait. Michx. Fl. I., 254.

Canada. (*Pursh.*) Saskatchewan. (*Drummond.*) Wet grounds, Canada. (*Gray.*) I believe all the above references are based upon a misconception. Drummond's plant must have been the leaves of *Gaylussacia resinosa*; Pursh is unreliable; and Dr. Gray probably follows the statements of his predecessors.

Excluded Species.

Leucothœ racemosa, Gray.

Andromeda racemosa, Pursh. Fl. I., 294.

Pursh credits this species, also to Canada, but as it cannot possibly be within our limits I exclude it.

359. CALLUNA, Salisb. (HEATHER.)

(1385.) **C. vulgaris,** Salisb.

C. Atlantica, Seem. Journ. Bot. IV., 305.

East coast of Newfoundland, near Ferryland, Lat. 47°, Long. 52° 50′ west, forming a small patch about three yards square. The locality is in the same part of the island to which the specimens collected by Mr. Cormack, are referred, namely, the south-east peninsula; and two additional localities in this peninsula are noticed on Cormack's label, namely, the head of St. Mary's Bay and Trepassy Bay or Harbor. (*Journal of Botany*, Vol. III., page 221.) In a wet springy place, among spruce stumps, in peaty soil, overlying clay, on the farm of Mr. Robertson, St. Ann's, Inverness Co., Cape Breton Island. (*Lawson.*) Dartmouth Hills near Halifax; Point Pleasant Park, Halifax; East Bay, Cape Breton Island, in considerable quantity; Caplin Bay, two miles from Ferryland, which is about thirty-five miles south of St. John's, there is a bed of heather, of no great extent but healthy and flourishing. At Renews, about twenty or thirty miles from Ferryland, there is also a quantity of heather, supposed to have been derived from Caplin Bay growth, but this is only conjecture. (*Lawson in Transactions of Nova Scotia Institute of Natural Science*, Vol. IV., page 167.)

360. LOISELEURIA, Desv. (ALPINE AZALEA.)

(1386.) **procumbens,** Desv.

Azalea procumbens, Linn. Hook. Fl. II., 44.

Newfoundland and Labrador. (*Morrison.*) On hill sides Cariboo, Labrador. (*Butler.*) Summit of Mount Albert, Gaspe, altitude nearly 4,000 feet. (*Macoun.*) Barren grounds from Lat. 65° to the Arctic Islands. (*Richardson.*) Bank's Islands and Mount Edgecombe, Lat. 54°. North-west Coast. (*Menzies.*) Cape Lisburne and islands of Ounalashka and Chamisso. (*Rothr. Alask.*) On both sides of Baffin's Bay and Davis Strait. (*Capt. Markham.*) Back's Great Fish River. (*Capt. Back.*)

Ungava, (*McGill Coll. Herb.*) Egedesminde, Greenland, Lat. 69°. (*Dr. Kane.*) Greenland. (*Hook. Arct. Pl.*)

361. BRYANTHUS, Gmel. (FALSE HEATHER.)

(1387.) **B. empetriformis,** Gray.

Menziesia empetriformis, Smith. Hook. Fl. II., 40.

Rocky Mountains from Lat. 50° to 42°; also, Vancouver Island. (*Gray.*) Nutka on the North-west Coast of America. (*Menzies.*) Lake Lindeman, source of the Youcon, Lat. 60°. (*Schwatka.*)

(1388.) **B. Grahamii,** Hook. Fl. II., 40.

B. empetriformis, Gray. Var. *intermedius,* Gray (?)
Menziesia Grahamii, Hook. Fl. II., 40.
M. intermedia, Hook. Fl. II., 40.

Alpine woods and open elevated situations of the Rocky Mountains, Lat. 55°. (*Drummond.*) Woods and open places (*M. intermedia*) in the Rocky Mountains. (*Drummond.*) South Kootanie Pass, 6,500 feet altitude, 49th parallel; eastern summit of the North Kootanie Pass; Tsi-tsult Mountains, B.C. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*) Abundant in some places on the higher mountain slopes, Kicking Horse Pass, B.C. (*Macoun.*)

(1389.) **B. taxifolius,** Gray.

Phyllodoce taxifolia, Salisb. Gray, Man., 297.
Menziesia cærulea, Swartz. Hook. Fl. II., 39.

Labrador. (*Morrison.*) Ungava Bay. (*McGill Coll. Herb.*) Summit of Mount Albert, 4,000 feet altitude, Gaspé. (*Macoun.*) On both sides of Baffin's Bay and Davis' Strait. (*Markham.*) Fiske Fiord, Lat. 64°; Disco Island, Lat. 70°. (*Dr. Kane.*) Greenland. (*Hook. Arct. Pl.*)

(1390.) **B. Aleuticus,** Gray.

Menziesia Aleutica, Spreng. Hook. Fl. II., 40.
Phyllodoce Pallasiana, Don. Rothr. Alask., 450.

Ounalashka and Sitka. (*Rothr. Alask.*)

(1391.) **B. glanduliflorus,** Gray.

Menziesia glanduliflora, Hook. Fl. II., 40.

Rocky Mountains, Lat. 49° to 56° and west to Sitka. (*Gray.*) Rare in the Alpine woods and mountains north of Smoky River, Lat. 56°.

(*Drummond.*.) South Kootanie Pass, altitude 7,000 feet, 49th parallel; Klootch-oot-a Lake, B.C. (*Dawson.*) On the higher mountain slopes, Kicking Horse Pass. (*Macoun.*) Bartlett Bay, Alaska. (*Meehan.*)

362. KALMIA, Linn. (AMERICAN LAUREL.)

(1392.) **K. latifolia,** Linn. Calico-bush.

Credited to Canada by Pursh. and lately by Dr. Gray, but evidently unknown to local collectors. (*Macoun.*) Reported as being found in ravines and near ponds in the interior, up Salmon River, and on Esquimaux Island, Labrador. (*W. E. Stearns.*) Clearly a broad-leaved form of *K. angustifolia*, which is common on Anticosti, is referred to here. (*Macoun.*)

(1393.) **K. angustifolia,** Linn. Sheep Laurel, Lambkill.

Labrador, Newfoundland, Anticosti, Nova Scotia and New Brunswick, thence westward through Quebec and northern Ontario to the Georgian Bay. Very abundant in the Maritime provinces, often covering large spaces in boggy or rocky places with its beautiful purple flowers. Throughout Canada to Hudson Bay. (*Michaux.*) James Bay. (*Brown.*)

(1394.) **K. glauca,** Ait.

K. glauca, var. *rosmarinifolia*, Hook. Fl. II., 41.

Common in peat bogs from the Atlantic to the Pacific, but scarcely going north of the Arctic circle. (*Hooker.*) Newfoundland and Hudson Bay. (*Gray.*) Sitka. (*Rothr. Alask.*) Fort Wrangel, Alaska. (*Meehan.*) Point Ogle, Arctic Coast. (*McGill Coll. Herb.*) Greenland. (*Hook. Arct. Pl.*) Specimens from various localities have leaves varying from very narrowly linear and revolute to broadly oblong and almost plain, but frequently these diverse leaf forms are obtained from the same group of plants.

Var. **microphylla,** Hook. Fl. II., 41. (?)

Specimens referred to this form have the leaves sometimes in threes, almost oval, perfectly glaucus, not the least revolute and with a strong midrib. In swamps in the Rocky Mountains. (*Drummond.*) Peaty swamps along the Telegraph Trail, northern British Columbia. (*Macoun.*) Tsi-tsult Mountains, and swamps along the Skeena River, B.C. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*)

363. LEDUM, Linn. (LABRADOR TEA.)

(1395.) **L. palustre,** Linn.

L. palustre, L. Var. *angustifolium*, Hook. Fl. II., 44.

Bogs, Newfoundland, Labrador, and through the Arctic regions to Alaska and Aleutian Islands. (*Gray.*) East coast of Hudson Bay. (*R. Bell.*) Norton Sound, to Point Barrow and northern coast. (*Rothr. Alask.*) Fort Wrangel, Alaska. (*Meehan.*) Back's Great Fish River and Hudson straits. (*McGill Coll. Herb.*) Between the Coppermine River and Cape Turn-again, Lat. 67° 54′, Long. 115° 31′ west. (*Dease.*) Greenland. (*Hook. Arct. Pl.*) Sukkertoppen, Lat. 65°; Holsteinburg, Lat. 68°. (*Dr. Kane.*) Hudson Bay specimens have the pedicels clothed with ferruginous hairs.

Var. **dilatatum,** Wahl.

Approaching the next, having broader leaves and sometimes long oval capsules. North-west Coast, Sitka, &c. (*Gray.*)

(1396.) **L. latifolium,** Ait. Labrador Tea.

L. palustre, L. Var. *latifolium*, Hook. Fl. II., 44.

Peat bogs and marshes from Labrador, Newfoundland and the Maritime provinces westward to the Pacific. This species has a more southern range than *L. palustre*, and may be distinguished from it by never having ten stamens but more commonly five.

(1397.) **L. glandulosum,** Nutt.

Southern boundary of British Columbia and in the Rocky Mountains. (*Gray.*)

364. RHODODENDRON, Linn. (ROSE BAY, AZALEA.)

(1398.) **R. Kamtschaticum,** Pall.

Bank's Island and Port Edgecombe, North-west Coast, Lat. 53°. (*Menzies.*) Ounalashka. (*Rothr. Alask.*) Alaska and Aleutian Islands. (*Gray.*)

(1399.) **R. albiflorum,** Hook. Mountain Rhododendron.

Alpine woods of the Rocky Mountains. (*Drummond.*) Western summit of Crow Nest Pass and eastern summit of North Kootanie Pass; Misinchinca River, near Pine River Pass, Rocky Mountains,

Lat. 55°. Tsi-tsult Mountains, B.C. (*Dawson.*) Summit of Stuart Lake Mountain; also abundant on the sides of ravines in the Kicking Hoase Pass, B.C. (*Macoun.*) Cariboo Mountains, B.C. (*Cowley.*)

(1400.) **R. viscosum,** Torr. Clammy Azalea.

Azalea viscosa, Linn. Pursh Fl. II., 153. Gray, Man., 299.

Swamps, Canada. (*Pursh.*) Not known to later collectors. May probably be found along the borders of Maine.

(1401.) **R. nudiflorum,** Torr. Purple Azalea.

Azalea nudiflora, Linn. Gray, Man., 299.
A. periclymenoides, Michx. Pursh Fl. I., 153.

Swamps, low grounds or shaded hillsides, Canada. (*Gray.*) It is probable that Dr. Gray follows Pursh in giving this species a place in the Canadian flora. We have no knowledge of it.

(1402.) **R. Rhodora,** Don. Rhodora,

Rhodora Canadensis, Linn. Gray, Man., 300; Macoun's Cat., No. 1171.

Cool bogs and open peaty places. Labrador, Newfoundland, Anticosti, Nova Scotia and New Brunswick, and thence westward through Quebec to the vicinity of Montreal. This is a most beautiful shrub and in the early part of June fills the peat bogs along the Intercolonial Railway with a profusion of lovely flowers. Its western limits as far as known are: Three Rivers, Nicolet and Port St. Francis. (*Maclagan.*) Beauharnois County, Q. (*McGill Coll. Herb.*)

(1403.) **R. macrophyllum,** Don. Macoun's Cat., No. 1169.

R. maximum, Hook. Fl. II., 43.

Woods, Puget Sound. (*Gray.*) North-west Coast. (*Menzies.*) Mountain woods near Hope, B.C. (*Dawson & Hill.*)

(1404.) **R. maximum,** Linn. Great Laurel or Rose Bay.

Damp woods, rare in Nova Scotia and western Ontario. Near Beaver Dam Gold Mines, Sheet Harbor, N.S. (*Lawson & Archibald.*) In woods, Norfolk Co., Ont. [?] (*Dr. Nicholl.*)

(1405.) **R. Lapponicum,** Wahl.

Labrador. (*Morrison.*) On a hill top near Amour, Labrador. (*Butler.*) Summit of Mount Albert, altitude 4,000 feet, Gaspé. (*Macoun.*) Summits of the Rocky Mountains north of Smoky River, Lat. 56°. (*Drummond.*) Barren grounds from Lat. 65° to the Arctic seashore and islands. (*Richardson.*) Norton Sound. (*Nelson.*) Port

Clarence. (*Rothr. Alask.*) Both sides of Baffin's Bay and Davis Strait. (*Capt. Markham.*) Back's Great Fish River. (*Capt. Back.*) Between the Coppermine and Cape Turn-again, Lat. 67° 54′, Long. 115° 31′ west. (*Dease.*) Holsteinburg, Lat. 68°. (*Dr. Kane.*) Greenland. (*Hook. Arct. Pl.*)

365. MENZIESIA, Smith.

(1406.) **M. glabella,** Gray.

M. globularis, Hook. Fl. II., 41.

Alpine woods north of Smoky River, Lat. 56°. (*Drummond.*) Bow River Pass. (*Bourgeau.*) South Kootanie Pass, 49th parallel; eastern summit of North Kootanie Pass and western summit of same pass; also Michell Creek, Crow Nest Pass. (*Dawson.*) Very abundant in the Kicking Horse Pass close to the railway, B.C. (*Macoun.*)

(1407.) **M. ferruginea,** Smith.

North-west Coast. (*Menzies.*) Queen Charlotte Islands. (*Dawson.*) Port Hammond, B.C. (*Fletcher.*) Sitka and Ounalashka. (*Rothr. Alask.*) Fort Wrangel and Pyramid Harbor, Alaska. (*Meehan*). Woods, coast of British Columbia to Alaska and the Aleutian Islands. (*Gray.*)

366. CLADOTHAMNUS, Bong.

(1408.) **C. pyrolæflorus,** Bong.

Tolmiea occidentalis, Hook. Fl. II., 45.

North-west Coast. (*Menzies.*) Low woods, Washington Territory to Alaska. (*Gray.*) Sitka. (*Rothr. Alask.*)

367. PYROLA, Linn. (SHIN-LEAF, WINTERGREEN.)

(1409.) **P. minor,** Linn.

Cold woods, Labrador. (*Morrison.*) Cool woods near Dalhousie, N.B. (*Fletcher.*) Kamarouska, Q. (*Burgess.*) Cold woods, North Sydney, Cape Breton; cool ravines, Gaspé Basin; summit of Mount Albert, 4,000 feet altitude, Gaspé. In woods on Pie Island, Thunder Bay, and in woods on the Portage at Kakabeka Fall, 30 miles above Fort William; also on Lake Ellen, Nipigon River, and very abundant on islands in Humboldt and Wabanosh bays, Lake

Nipigon. (*Macoun.*) Woods in the Rocky Mountains. (*Drummond.*) Michell Creek, Crow Nest Pass, Rocky Mountains. (*Dawson.*) Barren country from Lat. 64° to the Arctic coast and islands. (*Richardson.*) Observatory Inlet, North-west Coast. (*Scouler.*) Ounalashka. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(1410.) **P. secunda,** Linn.

Rich woods throughout Canada from Newfoundland and the Maritime provinces to the Pacific and far northward on the Mackenzie. A very common species and equally as abundant west of the mountains as eastward. Greenland. (*Hook. Arct. Pl.*)

Var. **pumila,** Gray, Man. Ed. V., 302.

Peat bogs and mossy swamps from Labrador to Alaska. (*Gray.*) Cedar swamps, North Hastings, Ont. (*Macoun.*) Swamps, London, Ont. (*Burgess.*) Swamps south of Red Rock. Lake Superior. (*Macoun.*)

Var. β. Hook. Fl. II., 45.

Woods of Portage River, near La Grande Côté, Rocky Mountains. (*Drummond.*) Leaves narrow and acuminate.

(1411.) **P. chlorantha,** Swartz.

Rather dry or sandy woods generally under conifers, from Newfoundland, Labrador and the Maritime provinces westward to the Rocky Mountains and northern British Columbia, and northward to Bear Lake. (*Richardson & Gray.*) Woods, Truro, Pirate's Cove, Gut of Canso, and near Annapolis, N.S.; North Sydney, Cape Breton. (*Macoun.*) Lily Lake, St. John, N.B. (*Hay.*) Dalhousie, N.B. (*Fletcher.*)

Var. **occidentalis,** Gray.

P. occidentalis, R. Br. Hook. Fl. II., 47.

Rocky Mountains, Bow River Pass. (*Bourgeau.*) Sledge Island on the North-west Coast. (*Nelson.*) Alaska to Kotzebue Sound. (*Gray.*)

(1412.) **P. elliptica,** Nutt.

P. rotundifolia, Michx. Fl. I., 251, in part.

Rich woods. Quite common from Nova Scotia and New Brunswick westward through Quebec and Ontario to Owen Sound. (*Macoun.*) Lake of the Woods; Winnipeg and North-west Angle Road, and in thickets, Turtle Mountain, 49th parallel. (*Dawson.*) Westward to the Saskatchewan. (*Drummond.*)

(1413.) **P. rotundifolia,** Linn. Round-leaved Wintergreen.

Sandy or dry woods, in swamps or on mountain tops from the Atlantic to the Pacific and northward to the Arctic regions, under its various varieties. Greenland. (*Hook. Arct. Pl.*)

Var. **incarnata,** DC.

Flowers from flesh color to rose purple; calyx lobes triangular-lanceolate. Cold woods and bogs, northern New England to the Aleutian Islands. (*Gray.*) Throughout Canada to Bear Lake. (*Richardson.*) From Hudson Bay to the Rocky Mountains. (*Drummond.*) Dalhousie and Pictou, N.S. (*McKay.*) Occurs near Fredericton, N.B. (*Prof. Bailey.*) Near Edmunton, N.B. (*Hay.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*)

Var. **asarifolia,** Hook. Fl. II., 46.

Pyrola asarifolia, Michx. Fl. I., 251; Pursh Fl. I., 299.

Leaves round-reniform, orbicular-subcordate, or inclined to oblate-orbicular: scape slender. Not uncommon, northward and westward to the Rocky Mountains. (*Gray.*) Not rare in New Brunswick. (*Fowler's Cat.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Dawson Road west of Lake Superior. (*Burgess.*) Common in thickets throughout the North-west to the base of the Rocky Mountains. (*Macoun.*) From Hudson Bay to the Rocky Mountains. (*Drummond.*) Northward to Bear Lake. (*Richardson.*)

Var. **uliginosa,** Gray.

Leaves from subcordate to oblate, generally dull. Flowers rose-colored or purple. Calyx lobes shorter than preceding, usually broadly ovate, sometimes obtuse. Cold bogs, northward, nearly across the continent. (*Gray.*) Andover, N.B. (*Hay.*) Peat bogs at Belleville and north-westerly to the Rocky Mountains in the Bow River Pass. (*Macoun.*) Michell Creek, Crow Nest Pass, Rocky Mountains; also, Qualcho Lake, B.C. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*)

Var. **bracteata,** Gray.

Pyrola bracteata, Hook. Fl. II., 47.

Coniferous woods, British Columbia. (*Gray.*) North-west Coast. (*Scouler.*) Small prairie in cedar bush on Wigwam River, Rocky Mountains, B.C. (*Dawson.*)

Var. **pumila,** Hook.

From Labrador to the Mackenzie River, along the Arctic coast. (*Gray.*)

(1414.) **P. picta,** Smith.

P. dentata, Hook. Fl. II., 47.

Nutka Sound and North-west Coast. (*Menzies.*) Thickets at Spuzzum above Yale, B.C. (*Fletcher.*)

(1415.) **P. aphylla,** Smith.

Puget Sound. (*Gray.*) Very likely in woods on Vancouver Island.

368. MONESES, Salisb. (ONE-FLOWERED WINTERGREEN.)

(1416.) **M. uniflora,** Gray.

M. grandiflora, Salisb. Rothr. Alask., page 450.
Pyrola uniflora, Linn. Hook. Fl. II., 45.

Very common in shady or mossy woods from Labrador, Newfoundland and the Maritime provinces westward to the Pacific and northward to Lat. 64°. (*Hooker.*)

369. CHIMAPHILA, Pursh. (PIPSISSEWA.)

(1417.) **C. umbellata,** Nutt. Prince's Pine.

C. corymbosa, Pursh Fl. I., 300.

Dry and generally coniferous woods from Nova Scotia and New Brunswick westwardly throughout Quebec and Ontario, thence westward through the forest country to the coast of British Columbia and Vancouver Island.

(1418.) **C. Menziesii,** Spreng. Hook. Fl. II., 49.

Coniferous woods, British Columbia. (*Gray.*) North-west Coast. (*Menzies.*)

(1419.) **C. maculata,** Pursh. Spotted Wintergreen.

Pyrola maculata, Linn. Michx. Fl. I., 251.

Dry woods, western Ontario. Vicinity of Hamilton, Ont. (*Logie.*) Chippawa and St. Catharines, Ont. (*Maclagan.*) St. James' Cemetery, Toronto. (*Fowler.*)

LVII. MONOTROPEÆ. Pipe-wort Family.

370. PTEROSPORA, Nutt. (PINE-DROPS.)

(1420.) **P. andromeda,** Nutt.

Usually under pines in dry woods. Near Quebec. (*Goldie.*) Pine woods along the Gatineau, near Chelsea, Q., in the vicinity of Ottawa. (*Fletcher Fl. Ott.*) Pine woods near the gravel pit, Belleville; pine woods near Canniffton, Hasting Co.; also near Meyersburg, Northumberland Co., and along the Humber a little west of Toronto. (*Macoun.*) Woods near Cline's mill west of Hamilton. (*Logie.*) Near Niagara Falls. (*Hooker.*) Near the Whirlpool on the American side of the Niagara River. It should also be found on the Canadian side. (*David F. Day.*) Saskatchewan. (*Drummond.*)

371. ALLOTROPA, Torr. & Gray.

(1421.) **A. virgata,** Torr. & Gray.

Under oaks, &c. Cascade Mountains. (*Gray.*) Somewhere in southern British Columbia. (*Cowley.*)

372. MONOTROPA, Linn. (INDIAN PIPE, PINE SAP.)

(1422.) **M. uniflora,** Linn. Indian Pipe.

Damp woods not uncommon. Anticosti, Nova Scotia and New Brunswick and westward throughout Quebec and Ontario to the height of land above Lake Superior. (*Macoun.*) Lake of the Woods. (*Dawson.*)

373. HYPOPITYS, Scop. (PINE SAP.)

(1423.) **H. lanuginosa,** Nutt.

Monotropa Hypopitys, Linn. Gray, Man., 305. Macoun's Cat., No. 1186.

In spruce woods, common on Anticosti; Pirate's Cove, Gut of Canso, N.S., and in woods at North Sydney, Cape Breton. (*Macoun.*) Dalhousie and Pictou, N.S. (*McKay.*) Under spruce, not pine, in College Woods, Windsor, Hants Co., N.S. (*How.*) Growing in the shade of pine trees at St. Andrews, N.B. (*Vroom.*) Lily Lake, St. John, N.B.

(*Hay.*) In woods, Petitcodiac, Westmorland Co., N.B. (*Brittain.*) Very abundant on the slopes of Mount Albert, Gaspé, under spruce and birch. (*Macoun.*) Occasionally met with in damp woods along the River Rouge, Q. (*D'Urban.*) St. Andrews, near Montreal. (*McGill Coll. Herb.*) Mixed woods, Kennebec, Addington Co., Ont.; Rich woods in Brighton and Seymour, Northumberland Co., Ont. (*Macoun.*) Woods near Hamilton, Ont. (*Logie.*) Malden. (*Maclagan.*) Sou-sou-wa-ga-mi Creeks, in moss, amongst balsams, spruces and birches. (*R. Bell.*)

LVIII. DIAPENSIACEÆ. Diapensia Family.

374. DIAPENSIA, Linn. (DIAPENSIA.)

(1424.) **D. Lapponica,** Linn.

Labrador. (*Morrison.*) Common on hill tops at Caribou, Labrador. (*Butler.*) Summit of Mount Albert, Gaspé, altitude nearly 4,000 feet. (*Macoun.*) Table Top Mountain, Gaspé. (*Porter.*) Mouth of Great Fish River. (*Capt. Back.*) Whale Island, Arctic America. (*Capt. Parry.*) On both sides of Baffin's Bay and Davis Strait. (*Capt. Markham.*) Smith's Sound, Lat. 73°. (*Dr. Kane.*) Greenland. (*Hook. Arct. Pl.*)

LIX. PLUMBAGINACEÆ. Lead-wort Family.

375. STATICE, Linn. (SEA-LAVENDER, MARSH-ROSMARY.)

(1425.) **S. Limonium,** Linn. Var. **Caroliniana,** Gray.

S. Caroliniana, Walt. Hook. Fl. II., 123.

Newfoundland. (*Miss Brenton.*) Labrador. (*Gray.*) Beaches at Boat Harbor, Pictou, N.S. (*McKay.*) Halifax Harbor, N.S. (*Lawson.*) River Avon at Windsor, N.S. (*How.*) Marshes near Truro, N.S. (*Macoun.*) Common in salt marshes around the coast of New Brunswick. (*Fowler's Cat.*) Lower St. Lawrence. (*Burgess.*)

376. ARMERIA, Willd. (THRIFT. SEA PINK.)

(1426.) **A. vulgaris,** Willd. Common Thrift.

Statice Armeria, Linn. Hook. Fl. II., 123.

Sea shores, probably in every latitude; on the extreme Arctic coasts

and islands ; and in Labrador, Newfoundland and North-west America ; and the barren country of the interior. (*Hooker.*) In great profusion on the summit of Mount Albert, Gaspé, altitude 4,000 feet. Coast of Vancouver Island. (*Macoun.*) Victoria, Vancouver Island. (*Fletcher & Meehan.*) Greenland. (*Hook. Arct. Pl.*)

LX. PRIMULACEÆ. Primrose Family.

377. PRIMULA, Linn. (PRIMROSE.)

(1427.) **P. farinosa,** Linn. Bird's Eye Primrose.

P. Scotica, Hook. Fl. II., 120.

Crevices of rocks and exposed points along the sea, lakes or rivers. Labrador. (*Butler.*) Rather rare at Harrington Harbor and on the neighbouring islands, Labrador. (*W. E. Stearns.*) Abundant on Anticosti, west side. (*Macoun.*) Near Annapolis, N.S. (*McKay.*) Hall's Harbor, King's Co., N.S. (*How.*) Shore of Kennebeccasis, N.B. (*Fowler's Cat.*) Mouth of the Restigouche, near Campbellton, N.B. (*Chalmers.*) Very abundant, in crevices of rocks, along the Gaspé coast from Cape Rosier to Matane. (*Macoun.*) Quebec, Island of Orleans. (*Thomas.*) Temiscouta, Q. (*Burgess.*) Shore of Red Bay, Lake Huron ; and north-east coast of Lake Superior ; also around Lake Nipigon. Very abundant in the beds of small brooks and around the margins of ponds from Manitoba westward through the prairie region to the Rocky Mountains. Many specimens are from 12 to 18 inches high and very stout, producing often over thirty flowers in a capitate cluster. These are as mealy as the Gaspé specimens, while those from Anticosti are also tall and stout but almost glabrous. (*Macoun.*) Moose Mountain Creek and in profusion on the greater part of the Souris Plain. (*J. M. Macoun, C. P. R. Coll.*)

(1428.) **P. Mistassinica,** Michx.

P. stricta, Hornem. Rothr. Alask., 451.
P. Hornemanniana, Hook. Fl. II., 120.

Wet banks and shores abundant but local. It grows at Bonne Espérance and neighboring islands and at Forteau. Labrador. (*Butler.*) On a wet bank along a small brook at Truro, N.S. (*Macoun & Campbell.*) Near St. Stephen, N.B. (*Vroom.*) Up the Dartmouth and other rivers of Gaspé. (*J. Bell.*) Rocks along the sea shore at Rivière-du-Loup. (*Thomas.*) Lake Mistassini, Q. (*J. Richardson.*) North-east shore of Lake Huron at Red and Chicken bays ; very common

around Lake Superior, and westward to the Red Deer River at the head of Lake Winnipegoosis where it grows in profusion around salt springs. (*Macoun.*) Canada to Great Bear Lake. (*Richardson.*) West to the Rocky Mountains. (*Drummond.*) Kotzebue Sound. (*Rothr. Alask.*) West of the Mackenzie River. (*Dease.*) Ungava Bay. (*McGill Coll. Herb.*) Greenland. (*Hook. Arct. Pl.*)

(1429.) **P. borealis,** Duby.

Alaska and islands to Kotzebue Sound, &c. (*Gray.*) Bartlett Bay, Alaska. (*Meehan.*)

(1430.) **P. Sibirica,** Jacq.

Barren country between Lat. 60° and 69°, in clayey soil, by river banks and in marshy grounds. (*Richardson.*) Northern North-west Coast and islands. (*Gray.*) Fort Confidence, Lat. 65° 55′, Long. 118° 48′. (*Dease.*) Fort Selkirk, Youcon River, Lat. 62° 45′. (*Schwatka.*) Greenland. (*Hook. Arct. Pl.*)

(1431.) **P. nivalis,** Pall.

Ounalashka to Behring's Straits and St. Paul's Island. (*Gray.*) Islands of Ounalashka and St. Lawrence, and Kotzebue Sound. (*Rothr. Alask.*) Cape Newenham. (*Nelson.*) Mount Edgecomb, Alaska. (*Menzies.*)

(1432.) **P. cuneifolia,** Ledeb.

P. saxifragæfolia, Lehm. Hook. Fl. II., 121.

Aleutian Islands to Behring's Straits. (*Gray.*) Ounalashka. (*Menzies.*) Cape Newenham. (*Nelson.*) Kotzebue Sound. (*Capt. Beechy.*)

(1433.) **P. vulgaris,** Huds. Common Primrose.

Well established in meadows in the vicinity of Victoria, Vancouver Island. May, 1875. (*Macoun.*)

(1434.) **P. officinalis,** Linn. Cowslip.

P. vera, Linn. Macoun's Cat., No. 1203.

Well established in meadows about a mile inland from North Sydney, Cape Breton; also in meadows at Victoria, Vancouver Island. (*Macoun.*)

378. ANDROSACE, Linn.

(1435.) **A. Chamæjasme,** Host.

Alpine region of the Rocky Mountains from Lat. 49° to the Arctic coast, Behring's Straits, and islands. (*Gray.*) In the bed of Bow River at Morley and thence into the Bow River Pass. (*Macoun.*) Rocky Mountains, Bow River Pass. (*Bourgeau.*) Heights of the Rocky Mountains. (*Drummond.*) From Fort Norman to the Arctic coast. (*Richardson.*) Islands of Behring's Straits. (*Menzies.*) Cape Newenham. (*Nelson.*) Kotzebue Sound to Wainwright Island. (*Rothr. Alask.*)

(1436.) **A. occidentalis,** Pursh.

Generally on dry gravelly or sandy soil. Sandy island at the mouth of Rainy River. (*Macoun.*) Base of Pembina Mountain, 49th parallel; also on a gravel ridge along the Belly River west of Fort McLeod. (*Dawson.*) On arid soil, Spence's Bridge, Thompson River, B. C. (*Macoun.*)

(1437.) **A. septentrionalis,** Linn.

From the Saskatchewan to the heights of the Rocky Mountains. (*Drummond.*) North to Lat. 68° on the Mackenzie River. (*Richardson.*) Along the Saskatchewan near Fort Pitt; Bad Hills south of Eagle Hills, and gravel ridges in the Cypress Hills and along the Bow River near Morley; frequent along the railway from Brandon westward. (*Macoun.*) South of Moose Mountains, and abundant on the Souris Plain. (*J. M. Macoun, C. P. R. Coll.*) Winnipeg and North-west Angle Road; near Badger Creek, on the prairie; and on the prairie near Turtle Mountain, 49th parallel. (*Dawson.*) Very abundant and tall in the Athabasca district and westward into northern British Columbia. (*Macoun.*) West summit of the North Kootanie Pass; also, Curt-ya Lake, B.C. (*Dawson.*) Kotzebue Sound and Chamisso Island, and Fort Youcon. (*Rothr. Alask.*) Between the Coppermine River and Cape Turn-again, Lat. 67° 54′, Long. 115° 31′ west. (*Dease.*)

379. DOUGLASIA, Lindl.

(1438.) **D. nivalis,** Lindl.

Near the sources of the Columbia at an elevation of 12,000 feet above the level of the sea. (*Douglas.*)

(1439.) **D. arctica,** Hook.

Arctic seashore between the Mackenzie and Coppermine rivers. (*Richardson.*)

380. DODECATHEON, Linn. (AMERICAN COWSLIP.)

(1440.) **D. Meadia,** Linn.

D. integrifolium, Michx. Hook. Fl. II., 118.

Grassy moist prairies. Abundant at and near Brandon and westward to Moose Jaw Creek; boggy ground west of the Touchwood Hills; in the valley of Bow River at Morley. (*Macoun.*) Moose Mountain Creek and Souris Plain. (*J. M. Macoun, C. P. R. Coll.*) Near Turtle Mountain, on the prairie, also near Badger Creek and westward to the Rocky Mountains on the 49th parallel; Fossil Coulée, Milk River Ridge. (*Dawson.*) Near Carlton and on prairies of the Rocky Mountains. (*Drummond.*) Kenashow Islands, Alaska. (*Meehan.*)

Var. **macrocarpum,** Gray.

Damp grassy places at Victoria, Vancouver Island; also, at the base of the cliffs close to Yale, B.C. (*Macoun & Hill.*) Vicinity of Victoria. (*Dawson & Fletcher.*) From Lat. 49° to Alaska. (*Gray.*) Sitka, Kotzebue Sound, and Cape Lisburne. (*Rothr. Alask.*)

Var. **lancifolium,** Gray.

On an island at Kanaka Bar, Fraser River, B.C., not elsewhere seen. (*Hill.*) This form has both leaves and stem covered with glandular hairs as well as the pedicels and calyx.

Var. **frigidum,** Gray.

D. frigidum, Cham & Schlecht. Hook. Fl. II., 119.

West side of the Rocky Mountains. (*Douglas.*) Kotzebue Sound. (*Capt. Beechy.*) Arctic seashore. (*Capt. Back.*)

Var. **latilobum,** Gray.

D. dentatum, Hook. Fl. II., 119 (?).

Somewhere near the Columbia. (*Douglas.*) Cascade Mountains, British Columbia or Washington Territory. (*Gray.*)

381. TRIENTALIS, Linn. (STAR-FLOWER.)

(1441.) **T. Americana,** Pursh. Chickweed Wintergreen.

T. Europœa, Michx. Fl. I., 200.

Damp grassy woods, quite common. Newfoundland, Labrador, Anticosti and the Maritime provinces, westward throughout Quebec and Ontario, and through the wooded country to Lake Manitoba. (*Macoun.*) West to the Saskatchewan. (*Drummond.*)

(1442.) **T. Europœa,** Linn.

Along the Thompson River above Lytton, B.C. (*Dawson.*) Near Stuart Lake, northern British Columbia. (*Macoun.*) Cassiar, B.C. (*Cowley.*) Sitka and Norton Sound. (*Rothr. Alask.*) Sitka. (*Meehan.*) Queen Charlotte Islands. (*Dawson.*)

Var. **arctica,** Ledeb.

T. arctica, Fischer. Hook. Fl. II., 121.

Mountains from Lat. 49° to Aleutian Islands and Behring's Straits. (*Gray.*) Cariboo Mountains, B.C. (*Cowley.*) Near McLeod's Lake, northern British Columbia, Lat. 55°. (*Macoun.*) Iltasyouco River, B.C. (*Dawson.*) Western shores and islands from Sandy Bay in Clarence Straits to Ounalashka. (*Hooker.*) Kanesburg, Alaska. (*Meehan.*) Remarkable for its glandular pedicels.

Var. **latifolia,** Torr.

T. latifolia, Hook. Fl. II., 121.

North-west Coast. (*Hooker.*) Damp thickets, near Victoria, Vancouver Island. (*Macoun & Fletcher.*)

382. STEIRONEMA, Raf. (LOOSESTRIFE.)

(1443.) **S. ciliatum,** Raf.

Lysimachia ciliata, Linn. Gray, Man., 315. Macoun's Cat., No. 1211.

In damp thickets from Nova Scotia and New Brunswick westward throughout Quebec and Ontario, thence westward to the prairie region where it is extremely abundant near small ponds and through the Rocky Mountains to the Pacific Coast.

(1444.) **S. lanceolatum,** Gray.

Lysimachia lanceolata, Walt. Gray, Man., 315. Macoun's Cat., No. 1217.

Low grounds and thickets, western Ontario. (*Gray.*) Point Albino, Lake Erie. (*Day.*) Vicinity of London, Ont. (*Burgess.*)

(1445.) **S. longifolium,** Gray.

Lysimachia longifolia, Gray, Man., 316. Macoun's Cat., No. 1215.
L. revoluta, Nutt. Hook. Fl. II., 122.

Banks of streams, Lake Winnipeg to Niagara. (*Gray.*) Frequent in crevices of rocks at Niagara Falls and swampy shore of Lake Huron at Red Bay; also, marshes at Point Edward near Sarnia. (*Macoun.*) Swamp near Niagara Falls and vicinity of London. (*Burgess.*) Islands in the Detroit River, and at Sandwich, Ont. (*Maclagan.*) Collingwood, Ont. (*Logie.*)

383. LYSIMACHIA, Linn. (LOOSESTRIFE.)

(1446.) **L. quadrifolia,** Linn.

Sandy or gravelly soil, not common, New Brunswick. (*Gray.*) Rocky woods, Grimsthorpe, Addington Co., and Elziver, Hastings Co.; also, Rice Lake Plains and at Port Dover Junction, near Lake Erie. (*Macoun.*) East Flamboro', near Hamilton, Ont. (*Logie.*) Sandwich, Ont. (*Maclagan.*) Vicinity of Toronto. (*Burgess & Fowler.*) Point Albino, Lake Erie. (*David F. Day.*)

(1447.) **L. stricta,** Ait.

L. racemosa, Lam. Michx. Fl. I., 128.

Common in low meadows along brooks and rivers from Anticosti, Nova Scotia, and New Brunswick, westward throughout Quebec and Ontario to six miles west of Thunder Bay. (*Macoun.*) Newfoundland to the Saskatchewan. (*Gray.*)

(1448.) **L. punctata,** Linn. *β.* **verticillata,** English Botany.

L. verticillata, Bieb. DC. Prodr. Vol. VIII., 65.

Quite common along roadsides and in fields near Annapolis, N.S.; also in some old gardens at Belleville, Ont. Very likely introduced from France. (*Macoun.*)

(1449.) **L. nummularia,** Linn. Moneywort.

Sparingly *naturalized* in old gardens and by brooks in lawns and parks. Old gardens at Belleville and Campbellford, Ont. (*Macoun.*) Harbor Grace, Newfoundland. (*McGill Coll. Herb.*)

(1450.) **L. thyrsiflora,** Linn.

L. capitata, Pursh Fl. I., 135.

Swamps and by cold brooks or in springs from Nova Scotia, and New

Brunswick, westward throughout Canada to the Pacific and northward to the Mackenzie River and north-westward to Alaska.

384. CLAUX, Linn. (SEA MILKWORT.)

(1451.) **C. maritima,** Linn.

Salt marshes along the coast of the Atlantic and Gulf of St. Lawrence from Newfoundland and Labrador to the coast of Maine. Common in the prairie region on the borders of saline lakes and marshes, also in the interior of British Columbia and along the coast in marshes to Alaska.

385. ANAGALLIS, Linn. (PIMPERNEL.)

(1452.) **A. arvensis,** Linn.

Naturalized in a few places. Harbor Grace, Newfoundland. (*McGill Coll. Herb.*) Ballast heaps and along the harbor, Pictou, N.S. (*Macoun & McKay.*) Digby, Granville and Annapolis, N.S. (*How.*) St. Andrews, N.B. (*Vroom.*) Ballast heaps, St. John, N. B. (*Hay.*) Vicinity of Ottawa, Ont. (*Fletcher Fl. Ott.*) On the sides of the streets in Kingston, Ont. (*Macoun.*) Vicinity of London, Ont. (*Burgess.*)

386. CENTUNCULUS, Linn. (CHAFFWEED.)

(1453.) **C. minimus,** Linn.

C. lanceolatus, Michx. Fl. I., 93.

Low damp places on the prairie, at the Bad Hills south-east of the Eagle Hills; also near the Hand Hills, and in damp spots at Reed Lake west of Old Wives Lakes. (*Macoun.*)

387. SAMOLUS, Linn. (BROOKWEED, WATER PIMPERNEL.)

(1454.) **S. Valerandi,** Linn. Var. **Americanus,** Gray.

S. Valerandi, Linn. Hook. Fl. II., 122.

Wet places especially in or along spring brooks. Muddy shore of a small brook at Kouchibougauc, N. B. (*Fowler's Cat.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Swamps between Canniffton and Belle-

ville, and in a swamp, one mile east of Campbellford, Northumberland Co., Ont.; also along Indian River, near Owen Sound. (*Macoun.*) St. Catharines, Ont. (*Maclagan.*) In the vicinity of Hamilton, Ont. (*Buchan.*) Neighborhood of London, Ont. (*Burgess.*) Vicinity of Toronto. (*Fowler.*) Mount Edgecomb, North-west Coast. (*Scouler.*)

LXI. OLEACEÆ. Olive Family.

383. FRAXINUS, Linn. (ASH.)

(1455.) **F. Americana,** Linn. (White Ash.)

F. epiptera, Michx. Hook. Fl. I., 50.
F. acuminata, Lam. Pursh Fl. I., 9.

Rich woods, becoming a fine tree both in the forest and along old fences. Not very common in Nova Scotia, but rather more so in New Brunswick, increasingly so in Quebec, and quite common in Ontario where it is a valuable and important tree. Whycocomah, Cape Breton, is its eastern limit as far as known, and its western one at Owen Sound, but it is likely to be found much farther west.

(1456.) **F. pubescens,** Lam. Red Ash or River Ash.

On alluvium along rivers and margins of lakes, not in swamps. A fine tree with light easily splitting wood often named "Rim Ash" on this account. Halifax, N.S. (*Lawson*) Not noticed in New Brunswick. Vicinity of Montreal; also Beauharnois Co., Q., and at Kemptville, Ont. (*McGill Coll. Herb.*) Gatineau Point and other suitable localities in the vicinity of Ottawa. (*Fletcher & Whyte.*) Not uncommon at Prescott, Ont. (*Billings.*) River banks and margins of lakes throughout Ontario and westward to Red Deer River at the head of Lake Winnipegoosis, Lat. 53° and in the valleys of the Red and Assiniboine rivers.

(1457.) **F. viridis,** Michx. Green Ash.

F. Americana, Hook. Fl. II., 51.
F. Caroliniana, Pursh Fl. I., 9.
F. juglandifolia, Willd. Pursh Fl. I., 9.

Valley of Sydenham River, near Owen Sound, Ont.; valleys of the Assiniboine and Red rivers west to Shell River above Fort Ellice. Dirt Hills along the margin of the Souris Plain. (*Macoun.*) Vicinity of Winnipeg. (*Bourgeau.*) The distribution of this and the preceding species is not very well understood, and collectors are earnestly requested to pay more attention to trees in their collecting of specimens.

(1458.) **F. quadrangulata,** Michx. Blue Ash.

Abundant on Pelee Island and Pelee Point, Lake Erie, and possibly on other points on the shores of that lake. (*Macoun.*)

(1459.) **F. Oregana,** Nutt. Oregon Ash.

F. pubescens, Willd. Var. β. Hook. Fl. II., 51.

Seen growing at Victoria, Vancouver Island. Indigenous. [?] (*Meehan.*) The specimens seen by Mr. Meehan are introduced, but the tree is probably indigenous in the lower valley of Fraser River, B.C.

(1460.) **F. sambucifolia,** Lam. Black or Swamp Ash.

Swamps and river bottoms from Anticosti, on Becscie River throughout Canada to the western side of Lake Superior, where it ascends the Kaministiquia River, about two miles; also on Nipigon River and east side of Nipigon Lake. This is the most plentiful tree of the series and in Ontario grows to an immense size.

389. LIGUSTRUM, Linn. (PRIVET.)

(1461.) **L. vulgare,** Linn.

Scarcely *naturalized,* but occasionally met with in old gardens and along fences near where houses have stood. Well established near Clifton, Niagara Falls. (*David F. Day.*) Naturalized at Delaware, Ont. (*McGill Coll. Herb.*)

LXII. APOCYNACEÆ. Dogbane Family.

390. APOCYNUM, Linn.

(1462.) **A. androsæmifolium,** Linn. Spreading Dogbane.

Borders of thickets and along fences and in old fields from the Atlantic to the Pacific. The form which is most frequently found from Anticosti throughout Canada, has its leaves pubescent underneath, while the Rocky Mountain plant is perfectly smooth in every part. There are three forms of this species.

Var. **incanum,** A. DC.

The downy-leaved form which is found eastward.

Var. **glabrum,**

The normal form, but seems to be wanting in eastern Canada. Kootanie Valley, Rocky Mountains. (*Dawson.*)

Var. **pumilum,** Gray.

A very low and peculiar round-leaved form which extends northward to the borders of British Columbia. (*Gray.*)

(1463.) **A. cannabinum,** Linn. Indian Hemp.

This species has nearly the same range as the last and the forms vary just as much. Three forms of this species are likewise recognised.

Var. **pubescens,**

A. pubescens, Torrey Fl. I., 276.

In the blown sand along the shore of Lake Erie at Point Pelee. (*Macoun.*) Possibly not uncommon.

Var. **glaberrimum,** DC.

This, we take, as the common eastern form. All our specimens from the older provinces are of this type.

Var. **hypericifolium,** Gray.

A. hypericifolium, Ait. Hook. Fl. II., 52.

Throughout Canada to the Saskatchewan. (*Drummond.*) Frequent in grassy thickets from Manitoba to the Rocky Mountains and British Columbia. All the forms of these two species should be collected and examined, so that we may be enabled to speak decisively of their distribution.

LXIII. ASCLEPIADACEÆ.

391. ASCLEPIAS, Linn. (MILKWEED. SILKWEED.)

(1464.) **A. tuberosa,** Linn. Pleurisy-root.

Abundant in the vicinity of Belleville and westward towards Trenton, Ont.; Rice Lake Plains and northward into Peterboro' and Victoria counties. (*Macoun.*) Flamboro' near Hamilton, Ont. (*Logie.*) Niagara Falls and Malden. (*Maclagan.*) Vicinity of London, Ont. (*Burgess.*) Lake Huron. (*Dr. Todd.*) Whirlpool, Niagara River, and at Strathroy, Ont. (*McGill Coll. Herb.*)

(1465.) **A. incarnata,** Linn. Swamp Milkweed.

A. amœna, Willd. Pursh. Fl. I., 181.

In marshes and ditches quite common in Ontario. Keswick Valley, N.B. (*Prof. Bailey.*) Lower Norton and Hammond River, N.B. (*Brittain.*) Charlotte County, N.B. (*Vroom.*) Abundant from Quebec westward to Owen Sound. (*Macoun.*) Lake of the Woods. (*Dawson.*) Throughout Canada to the Saskatchewan. (*Drummond.*)

(1466.) **A. speciosa,** Torr.

A. Douglasii, Hook. Fl. II., 53.

Not rare on the prairie from Manitoba to the Rocky Mountains. (*Macoun.*) Border of a stream near Wood Mountain, 49th parallel. (*Dawson.*) Medicine Hat and Maple Creek, Assiniboia. (*J. M. Macoun.*)

(1467.) **A. Cornuti,** Decaisne. Common Milkweed.

A. Syriaca, Linn. Hook. Fl. II., 53.

Fredericton, N.B. (*Fowler's Cat.*) Abundant in fields and borders of thickets from the Island of Orleans westward throughout Quebec and Ontario to Owen Sound. (*Macoun.*) Canada to the Saskatchewan. (*Richardson.*)

(1468.) **A. phytolaccoides,** Pursh. Poke Milkweed.

A. nivea, Sims. Hook. Fl. II., 52.

Borders of woods and old fields at Belleville, Ont., rather rare. (*Macoun.*) Rather rare at Prescott, Ont. (*Billings.*) Vicinity of Hamilton, Ont. (*Logie.*) Malden and islands in Detroit River. (*Maclagan.*) Port Stanley Railway Track common. (*Saunders.*) Vicinity of London, Ont. (*Burgess.*) Coldstream, Ont. (*McGill Coll. Herb.*) Vicinity of Toronto. (*Fowler.*)

(1469.) **A. ovalifolia,** Decaisne. Oval-leaved Milkweed.

A. variegata, var. *minor,* Hook. Fl. II., 52.

Very abundant throughout Manitoba and westward towards the Rocky Mountains. (*Macoun.*) Red River Prairie and Pembina Mountain, 49th parallel. (*Dawson.*) Moose Mountain and westward on the Souris Plain. (*J. M. Macoun, C. P. R. Coll.*) Plains of the Red River and banks of the Assiniboine, and west to the Saskatchewan at Carlton. (*Drummond.*)

(1470.) **A. quadrifolia,** Linn. Four-leaved Milkweed.

Dry soil, rare in Ontario. Canada. (*Dr. Beck.*) Adolphustown, Bay of Quinte. (*R. M. Stark.*) Vicinity of Napanee, Ont. (*Rev. John Scott.*)

(1471.) **A. verticillata,** Linn. Whorled Milkweed.

Vicinity of Niagara Falls. (*Burgess.*) Malden, Ont. (*Maclagan.*) Abundant on the alluvial plains of the Red River, and banks of the Saskatchewan near Fort Carlton. (*Douglas.*) Sparingly between Winnipeg and Portage La Prairie. (*Macoun.*) Stony Mountain, Man. (*Fletcher.*)

(1472.) **A. purpurascens,** Linn. Purple Milkweed.

Malden, and islands in Detroit River. (*Maclagan.*)

Excluded Species.

Asclepias obtusifolia, Michx.

A. variegata, Linn.

I have no authentic record of the discovery of these species and in the absence of specimens, am totally unable to know what species they represent. The latter was said to have been found at Hamilton, Ont., by the late Judge Logie.

392. ACERATES, Ell. (GREEN MILKWEED.)

(1473.) **A. viridiflora,** Ell.

Asclepias viridiflora, Raf. Hook. Fl. II., 53.

On dry or gravelly soil from Niagara Falls westward to the Rocky Mountains. Head of Lake Erie. (*Goldie.*) About Fort Carlton. (*Richardson.*) On the sand hills near Old Wives Lakes. (*Macoun.*) Wood End, Souris River, 49th parallel. (*Dawson.*)

Var. **lanceolata,** Gray.

Asclepias viridiflora, Raf. Var. *lanceolata,* Hook. Fl. II., 53.

On the sand beaches of Point Pelee, Lake Erie; also in numerous places in Manitoba and North-west Territories. (*Macoun.*) On a sand beach at Point Edward, foot of Lake Huron. (*J. M. Macoun.*) Banks of the Red River. (*Douglas.*) About Fort Carlton. (*Richardson.*)

Var. **linearis,** Gray.

This variety has linear leaves and low stems; umbels often solitary. Winnipeg Valley. (*Gray.*) Banks of the Assiniboine River; Pine Creek on sand dunes; and on sand hills at the confluence of the Qu'Appelle and Assiniboine rivers. (*Macoun.*)

LXIV. GENTIANACEÆ. GENTIAN FAMILY.

393. SABBATIA, Adns. (AMERICAN CENTAURY.)

(1474.) **S. angularis,** Pursh.

Rich soil, western Ontario. (*Gray.*) This species as a Canadian plant is unknown to me.

394. GENTIANA, Linn. (GENTIAN,)

(1475.) **G. ventricosa,** Griseb. Hook. Fl. II., 65.

Grand Rapids of the Saskatchewan between Cumberland House and Lake Winnipeg. (*Drummond.*)

(1476.) **G. crinita,** Frœl.

Vicinity of Quebec and Island of Orleans. (*Thomas.*) Zwicks Island, Belleville, Ont.; Oak Hills, Sidney, Hastings Co., Rice Lake Plains and Presqu'ile Point, Lake Ontario. (*Macoun.*) Prince's Island, near Hamilton, Ont. (*Logie.*) Moist woods two miles east of London, Ont. (*Saunders.*) Palledeau Islands, northern part of Lake Huron. (*R. Bell.*) Niagara River. Specimens approaching *G. detonsa.* (*David F. Day.*) Roseau River, along the banks of the stream, 49th parallel. (*Dawson.*) Very abundant on grassy prairie three miles north of Livingstone, on Swan River, Lat. 52°. (*Macoun.*) Toronto Island. (*Burgess & Fowler.*)

(1477.) **G. serrata,** Gunner.

G. detonsa, Fries. Hook. Fl. II., 64. Macoun's Cat., No. 1431.

Wet grounds, by streams, and on rocks, Newfoundland. (*Gray.*) Abundant but very short and branching at South-west Point and Salt Lake, Anticosti. (*Macoun.*) Island of Orleans, in the St. Lawrence. (*Thomas.*) On rocks close to Niagara Falls above the cataract; also on the shores of Red Bay, Lake Huron. (*Macoun.*) Niagara River, Navy Island, and Sandwich. (*Maclagan.*) Along the Maitland River near Goderich. (*James Macnab.*) Vicinity of Toronto. (*Fowler.*) Along the south fork of Belly River, 49th parallel. (*Dawson.*) Abundant in the valley of the Bow River from the Blackfoot Crossing to Morley; and along the North Saskatchewan between Fort Pitt and Edmonton. (*Macoun.*) From Fort Carlton on the Saskatchewan to the Rocky Mountains. (*Drummond.*) From Cumberland House to Slave and Bear lakes and northward to the Arctic Sea. (*Richardson.*) Point Barrow to Mackenzie River and Fort Youcon. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(1478.) **G. tenella,** Rottb. Hook. Fl. II., 63.

At Behring's Strait, on the shore of the sea at Kotzebue Sound. (*Chamisso.*) Ounalashka and Kotzebue Sound. (*Rothr. Alask.*)

(1479.) **G. auriculata,** Pall.

Islands between north-eastern Asia and America and possibly on the North-west American coast. (*Gray.*)

(1480.) **C. Amarella,** Linn. Var. **acuta,** Hook. f.

G. acuta, Michx. Hook. Fl. II., 63. Macoun's Cat., No. 1430.

Labrador and Lower Canada to Alaska and southward along the Rocky Mountains to Lat. 49°. (*Gray.*) On flats, Caribou, Labrador. (*Butler.*) South-west Point, and at Jupiter River, Anticosti. (*Macoun.*) At the mouth of the Restigouche, N.B. (*Chalmers.*) Island Falls, mouth of St. John River, N.B. (*Hay.*) Keswick Ridge, N.B. (*G. H. Burnett.*) Coast of Gaspé from Cape Rosier to Ste. Anne des Monts. (*Macoun.*) Trois Pistoles, Q., at the coast. (*D. A. P. Watt.*) Rivière-du-Loup, Q. (*Thomas.*) From the Lake of the Woods (*Macoun.*) across the whole interior to Queen Charlotte Islands. (*Dawson.*) Departure Bay, Vancouver Island. (*Meehan.*) Ounalashka. (*Rothr. Alask.*) At St. Francis, Metapedia, N.B. (*Fletcher.*)

Var. **stricta,** Watson.

G. acuta, Michx. Var. *stricta,* Hook. Fl. II., 63.

Frequent on open grassy prairies from Winnipeg westward to the Rocky Mountains. Easily distinguished by its strict habit and usually copious and light colored flowers. (*Macoun.*) Turtle Mountain, 49th parallel. (*Burgess.*)

Var. **tenuis,** Gray.

G. tenuis, Griseb. Hook. Fl. II., 63.

Cumberland House to Bear Lake; also along the Mackenzie River. (*Richardson.*)

(1481.) **C. aurea,** Linn. Hook. Fl. II., 61.

G. Aleutica, Cham. & Schlecht. Hook. Fl. II., 61.

Ounalashka. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(1482.) **C. propinqua,** Richards.

On hillsides at Amour and lowlands at Bonne Espérance, Labrador. (*W. A. Stearns.*) Labrador. (*Gray.*) Coast of Hudson Bay west of York Factory. (*R. Bell.*) Bow River Pass, Rocky Mountains. (*Bourgeau.*) Cumberland House to Bear Lake, and Bear Lake River. (*Richardson.*) Alpine swamps in Rocky Mountains. (*Drummond.*) Kotzebue Sound, Port Clarence, and Norton Sound. (*Rothr. Alask.*)

(1483.) **C. arctophila,** Griseb.

This species has a var. *densiflora* like the preceding, but owing to a paucity of specimens I do not consider it necessary to separate them. The Rocky Mountain specimens are said to be the variety in this case.

Eastern summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*) Rocky Mountains between Lat. 52°–56°. (*Drummond.*) Arctic Sea coast. (*Richardson.*)

(1484.) **C. quinqueflora,** Lam.

G. amarelloides, Pursh Fl. I., 186.

Moist hillsides in Ontario. Vicinity of Kingston and Toronto. (*Burgess.*) Hillside, Hamilton Township near Cobourg, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Malden, Ont. (*Maclagan.*) Delaware, Ont. (*McGill Coll. Herb.*)

(1485.) **C. Dougiasiana,** Bong.

Alaska to Oregon. (*Gray.*) In swamps; abundant at Fort MacLoughlin, Millbank Sound, North-west Coast. (*Dr. Tolmie.*) On the island of Sitka. (*Mertens.*) In the marshes of the North-west Coast. (*Scouler.*) Cassiar, northern British Columbia. (*Cowley.*)

(1486.) **C. humilis,** Stev.

Will likely be found in the Rocky Mountains about Lat. 49°.

(1487.) **C. prostrata,** Hænke.

Bow River Pass, Rocky Mountains. (*Macoun.*) Rocky Mountains between Lat. 52°–56°. (*Drummond.*) Bay of Good Hope, Alaska. (*Chamisso.*) Ounalashka and Kotzebue Sound. (*Rothr. Alask.*)

(1488.) **C. glauca,** Pall.

Higher and northern Rocky Mountains to Kotzebue Sound. (*Gray.*) In the Rocky Mountains between Lat. 52°–56°. (*Drummond.*) Klootchoot-a Lake, B.C. (*Dawson.*) Kotzebue Sound and Wainwright Inlet. (*Rothr. Alask.*)

(1489.) **C. frigida,** Hænke.

St. Paul, and Shumgin Islands off the north coast of Alaska. (*Gray.*)

(1490.) **C. calycosa,** Griseb.

In the Rocky or Cascade Mountains, Lat. 49°, B.C. (*Lyall.*)

(1491.) **C. platypetala,** Griesb. Hook. Fl. II., 58.

On the Island of Sitka, where it was found during the second expedition of Capt. Kotzebue. (*Hooker.*)

(1492.) **C. sceptrum,** Griseb. Hook. Fl. II., 57.

In the mountains of southern British Columbia. (*Gray.*) In the valley of Pitt River, B.C. (*Hill.*) Vancouver Island. (*Cowley.*)

(1493.) **C. Oregana,** Engelm.

Southern boundary of British Columbia, Lat. 49°. (*Lyall.*)

(1494.) **C. affinis,** Griseb.

From Carlton to Edmonton along the Saskatchewan. (*Drummond.*) Valleys of the Rocky Mountains. (*Douglas.*) Common on the western part of the prairie region, and passing into the next to the eastward. (*Macoun.*) Near White Mud River, and west of the Souris in the Missouri Coteau, 49th parallel ; slopes of the South Kootanie Pass and North Fork of Old Man River, Rocky Mountains. (*Dawson.*)

(1495.) **C. puberula,** Michx.

This species is generally confounded with the preceding, but a careful examination of all specimens from east of the 110th meridian, places them under this species. Our most westerly specimens are from 100 miles south of Battleford. (*Macoun.*) Prairie west of Red River. (*Dawson.*) On the Coteau de Missouri, 49th parallel. (*Burgess.*)

1496.) **C. saponaria,** Linn.

Moist woods, western Ontario. (*Gray.*) Fort Erie, Ont. (*David F. Day.*)

(1497.) **C. Andrewsii,** Griseb.

Moist ground along rivers and brooks. Vicinity of Quebec ; also, Island of Orleans. (*Thomas.*) St. Andrews and Gloucester, Q. (*McGill Coll. Herb.*) Common on sand by the side of the River Rouge, and shores of lakes and swamps, Ottawa Co., Q. (*D'Urban.*) Near St. Louis dam and several other places near Ottawa. (*Fletcher Fl. Ott.*) Low banks of the Nation River at the crossing of the St. Lawrence Railway; also, banks of the Rideau near Kemptville, Ont. (*Billings.*) Low grounds along the Salmon River at Shannonville, near the Railway Bridge ; banks of the Trent at Campbellford ; and along the Grand Trunk at Colborne, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. Kingston, Chippewa and Malden, Ont. (*Maclagan.*) Fort Erie, Ont. (*David F. Day.*) Borders of English's Creek, near London, Ont. Low ground, Humber Flats, near Toronto. (*Fowler.*) Abundant at Current River, Thunder Bay, near Port Arthur. (*Macoun.*)

(1498.) **C. alba,** Muhl.

G. ochroleuca, Frœl. Hook. Fl. II., 56.

Low grounds and meadows, western Ontario to Lake Superior. (*Gray.*) Malden, Ont. (*Maclagan.*) Border of a field near Fort

William, Thunder Bay and sparingly along the north-east coast of Lake Superior and northward to Lake Nipigon; also, at Heely Falls on the Trent, Northumberland Co., Ont. (*Macoun.*) Humber Flats, near Toronto. (*Fowler.*)

(1499.) **G. linearis,** Frœl.

G. saponaria, var. *linearis,* Griseb. Hook. Fl. II., 55.
G. Pneumonanthe, Willd. Pursh Fl. I., 185.

Near Welford Station, Kent Co., N.B. (*Fowler's Cat.*) Nashwaaksis, N.B. (*Moser.*) Quebec, near Beauport. (*Thomas.*) In the neighborhood of Quebec and at Lake St. Charles. (*Sheppard.*) Shewegan Falls, St. Maurice River. (*Maclagan.*) Marsh at Chicken Bay, Lake Huron; also in marshy meadows at Point Edward near Sarnia, Ont. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*)

Var. **lanceolata,** Gray.

Minnesota and along Lake Superior. (*Gray.*) It is probable that it is this form which occurs at Lakes Huron and Superior.

395. PLEUROCYNE, Eschsch.

(1500.) **P. rotata,** Griseb.

Labrador and Hudson Bay to the high north-west coast and Kotzebue Sound. (*Gray.*) On the flats at Caribou, and shores of Esquimaux River, also Bonne Espérance. Labrador. (*Butler.*) Along the coast of Anticosti above Jupiter River. Very abundant in the valley of Little Arm River, Long. 106′ west; and margins of ponds west of Edmonton on the Saskatchewan; also, at Tail Creek near Buffalo Lake, Lat. 52°. (*Macoun.*) Between Cumberland House and Hudson Bay. (*Drummond.*) Kotzebue Sound, River Buckland and Arctic Coast. (*Rothr. Alask.*) Newfoundland, Labrador and Mackenzie River. (*McGill Coll. Herb.*) Greenland. (*Hook. Arct. Pl.*)

(1501.) **P. Carinthiaca,** Griseb. Var. **pusilla,** Gray.

Swertia pusilla, Pursh Fl. I., 101.
P. rotata, var. *Americana,* Hook. Fl. II., 66.

Labrador. (*Hooker.*) South-west Point, and mouth of Jupiter River, Anticosti. (*Macoun.*) Rivière-du-Loup, St. Lawrence River, Q. (*Thomas.*) Sea shore at Cacouna, Q. (*L. D. Mignault.*)

396. SWERTIA, Linn.

(1502.) **S. perennis,** Linn. Var. **obtusa,** Griseb.

North-west Coast. (*Menzies.*) Kodiak Island, Alaska. (*Rothr. Alask.*)

397. FRASERA, Walt. (AMERICAN COLUMBO.)

(1503.) **F. Carolinensis,** Walt.

F. Walteri, Michx. Fl. I., 97.

Vicinity of Hamilton, Ont. (*Logie.*) Near Queenston, Ont. (*David F. Day.*) On the slopes of Queenston Heights near the railway. (*Macoun.*) Along the Great Western Railway east of Paris, Ont. (*Geo. Prescott.*)

398. HALENIA, Borckh. (SPURRED GENTIAN.)

(1504.) **H. deflexa,** Griseb.

Swertia corniculata, Michx. Fl. I., 97, not Linn.

Forteau Bay, Labrador. (*Miss Brodie.*) On the hillsides at Amour and the lowlands at Bonne Espérance, Labrador. (*W. E. Stearns.*) Labrador. (*Butler.*) Damp woods and barrens, St. John Co.; and at Restigouche, N.B. (*Fowler's Cat.*) Abundant along the Gaspé coast and on the summit of Mount Albert, Shickshock Mountains. (*Macoun.*) Common at Rivière-du-Loup. (*Thomas.*) Spencer Wood, near Quebec. (*Mrs. Percival.*) Vicinity of Hamilton, Ont. (*Logie.*) Neighborhood of London, Ont. (*Burgess.*) Shore of the Georgian Bay at Collingwood; also, shore of Red Bay, Lake Huron; and very abundant around the north shore of Lake Superior; also around Lake Nipigon. (*Macoun.*) Sault Ste. Marie. (*R. Bell.*) Lake of the Woods. (*Dawson.*) Norway House to Canada. (*Richardson.*) Rocky Mountains. (*Drummond.*) From Lake Manitoba westward through the wooded country to the North Saskatchewan near Edmonton. (*Macoun.*) Abundant at Dalhousie, N.B. (*Fletcher.*)

Var. **Brentoniana,** Gray.

H. Brentoniana, Griseb. Hook. Fl. II., 68.
H. heterantha, Griseb. Hook. Fl. II., 68.

Newfoundland. (*Dr. Morrison.*) South-west Point, Anticosti, and a few other places on the island. (*Macoun.*) Harbor Grace, Newfoundland. (*McGill Coll. Herb.*)

399. BARTONIA, Muhl.

(1505.) **B. tenella,** Muhl.

Centaurella autumnalis, Pursh Fl. I., 100.

Open woods, Newfoundland. (*Gray.*)

400. MENYANTHES, Linn. (BUCKBEAN.)

(1506.) **M. trifoliata,** Linn.

Quite common in bogs, swamps and slow flowing streams from Labrador, Newfoundland, Anticosti, Nova Scotia and New Brunswick, westward to the Pacific and northward to the Mackenzie, Ounalashka and Sitka. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(1507.) **M. Crista-galli,** Menzies.

Villarsia Crista-galli, Griseb. Hook. Fl. II., 70.

Marshy ground, coast of British Columbia to Alaska. (*Gray.*) Port Edgecombe. (*Menzies.*) Sitka. (*Rothr. Alask.*)

401. LIMNANTHEMUM, Gmelin. (FLOATING HEART.)

(1508.) **L. lacunosum,** Griseb.

Villarsia lacunosa, Vent. Pursh Fl. I., 139.

Shallow ponds and lakes not common. At the outlet of a small lake, two miles from North Sydney, Cape Breton. (*Macoun.*) Lakes between Windsor and Halifax. (*Rev. J. B. Uniacke.*) Several localities in Kings Co., N.B. (*Brittain.*) St. Stephen, N.B. (*Vroom.*) Abundant in a lake near the residence of Mr. King, Salmon River, Queen's Co., N.B. (*Hay.*) Very abundant in the Bushkong lakes; also in Cushogg and St. Norah's lakes, Victoria Co., Ont. (*Macoun.*) Lake Joseph, Muskoka, Ont. (*Burgess.*) Ste. Anne's near Montreal. (*Mrs. Girdwood.*)

LXV. POLEMONIACEÆ. Polemonium Family.

402. PHLOX, Linn. (PHLOX.)

(1509.) **P. pilosa,** Linn.

Phlox aristata, Michx. Palliser's Report, page 259.

Dry sandy woods, western Ontario and west to the Saskatchewan.

(*Gray.*) ? Malden, Ont. (*Maclagan.*) Dry, sandy woods near Amherstburgh, Ont. (*Macoun.*) Vicinity of Winnipeg. (*Bourgeau.*)

(1510.) **P. divaricata,** Linn. Blue Phlox.

Damp woods, quite common in western Ontario. At Casselman on the Canada Atlantic Railway, 20 miles from Ottawa. (*Fletcher.*) Rocky woodlands, Carleton Place near Ottawa. (*Macoun.*) Rocky woodlands west of Brockville, abundant. (*Billings.*) Abundant from Kingston westward to Owen Sound in rich woods.

(1511.) **P. subulata,** Linn. Ground or Moss Pink.

Dry sandy hills or woods, western Ontario. Sand hills near Simcoe, Norfolk Co. (*Dr. Nicholl.*) Near Cayuga, Ont. (*Mr. Wilkins.*)

(1512.) **P. Richardsonii,** Hook. Fl. II., 73.

Arctic Sea coast, July, 1826. (*Richardson.*) West of the Mackenzie. (*Capt. Pullen.*)

(1513.) **P. Hoodii,** Richards.

Sandy plains and hills of the Saskatchewan from Fort Carlton to the Rocky Mountains. (*Drummond.*) Eagle and Red Deer Hills on the Saskatchewan, abundant. (*Douglas.*) On ridges, Moose Mountain. (*J. M. Macoun, C. P. R. Coll.*) Dry gravelly knolls and ridges from Manitoba to the Rocky Mountains in the northern part of the prairie region. (*Macoun.*)

(1514.) **P. canescens,** Torr. & Gray.

Turtle Mountain, 49th parallel. (*Dawson.*) On the more southern prairies and Cypress Hills. (*Macoun.*) This species and the preceding flower early in May and have white flowers.

(1515.) **P. Douglasii,** Hook.

On the Rocky Mountains, near the confines of perpetual snow. (*Douglas.*) Wigwam River, Kootanie Valley, Rocky Mountains. (*Dawson.*)

Var. **diffusa,** Gray.

Borders of British Columbia. (*Gray.*) Coldwater River, Cascade Mountains above Hope, B.C. (*Dawson.*) The calyx of this form is covered with long cobwebby hairs, and is unlike the figure in Hooker which is identical with the specimens from Wigwam River.

(1516.) **P. Sibirica,** Linn.

Kotzebue Sound. (*Rothr. Alask.*) Greenland. (*Hook. Arct. Pl.*)

(1517.) **P. longifolia,** Nutt.

P. speciosa, var. *β.* Hook. Fl. II., 72.

Southern border of British Columbia. (*Gray.*) Sub-alpine range of the Rocky Mountains near the margin of perpetual snow. (*Douglas.*)

(1518.) **P. linearifolia,** Gray.

P. speciosa, var. *α.* Hook. Fl. II., 72.

In the Similkameen Valley, B.C. (*Dawson.*) The specimens are perfectly glabrous and the leaves linear and very narrow.

(1519.) **P. speciosa,** Pursh.

Along the southern border of British Columbia. (*Bot. Calif. I.,* 486.)

403. COLLOMIA, Nutt.

(1520.) **C. linearis,** Nutt.

On the sands at the mouth of Eel River, Restigouche Co.; also on the high rocky hill towards Dalhousie, N.B. (*Fowler's Cat. & Fletcher.*) From Fort Francis on Rainy River across the prairies and westward to Victoria, Vancouver Island. (*Macoun.*) From Lake Winnipeg across the Rocky Mountains to the Columbia. (*Douglas.*) From the Saskatchewan to Fort Franklin, Lat. 64°. (*Richardson.*) Red River prairie and westward along the 49th parallel to the Rocky Mountains. (*Dawson.*) Vicinity of Victoria, Vancouver Island. (*Fletcher.*)

(1521.) **C. gracilis,** Dougl.

Abundant on dry hills in the vicinity of Victoria, Vancouver Island. (*Macoun & Hill.*)

(1522.) **C. heterophylla,** Hook.

Southern part of British Columbia. (*Gray.*)

404. GILIA, Ruiz. & Pav.

(1523.) **G. liniflora,** Benth. Var. **pharnaceoides,** Gray.

G. pharnaceoides, Benth. Hook. Fl. II., 74.

Southern border of British Columbia. (*Gray.*)

(1524) **G. tenella,** Benth.

Quite common in spring on gravelly hillsides near Victoria, Vancouver Island. (*Macoun.*)

(1525.) **G. squarrosa,** Hook. & Arn.

Navarretia pungens, Benth. Hook. Fl. II., 75.

On dry or gravelly slopes, vicinity of Victoria, Vancouver Island. (*Dawson & Fletcher.*)

(1526.) **G. intertexta,** Steud.

Navarretia intertexta, Benth. Hook. Fl. II., 75.
G. minima, Gray. Dawson, Bound. Sur. Rep., page 370.

Vicinity of Wood Mountain, 49th parallel. (*Dawson.*) On arid soil north of the Cypress Hills and at the Red Deer Lakes west of the Elbow of South Saskatchewan. (*Macoun.*)

(1527.) **G. aggregata,** Spreng.

G. pulchella, Dougl. Hook. Fl. II., 74.
Cantua aggregata, Pursh Fl. I., 147.

On dry benches along Whip Saw Creek, near its confluence with the Similkameen River, B.C. (*Dawson.*)

(1528.) **G. minutiflora,** Benth.(?)

In the dry interior of British Columbia, between Spence's Bridge and Câche Creek on the Thompson River. (*Fletcher & Hill.*)

(1529.) **G. capitata,** Dougl.

Cantua parviflora, Pursh Fl. II., 730.

Vicinity of Victoria, Vancouver Island. (*Fletcher.*)

(1530.) **G. inconspicua,** Dougl.

Cantua parviflora, Pursh Fl. II., 730.

On dry hillsides, southern British Columbia. (*Gray.*)

405. POLEMONIUM, Linn. (GREEK VALERIAN.)

(1531.) **P. confertum,** Gray.

Alpine region of the Rocky Mountains about Lat. 49°. (*Gray.*) Summit of South Kootanie Pass; and western summit of North Kootanie Pass, Rocky Mountains. (*Dawson.*)

(1532.) **P. humile,** Willd.

P. cæruleum, var. *humile,* Hook. Fl. II., 71.

From Lat. 66° to the Arctic Sea coast, in deep sand. (*Richardson.*) Arctic coast to St. Paul's and the Shumagin Islands. (*Gray.*) West of the Mackenzie River. (*Dease.*) Lake Lindeman, source of the Youcon River, Lat. 60°. (*Schwatka.*)

Var. **pulchellum,** Gray.

P. cæruleum, var. *pulcherrimum,* Hook. Fl. II., 71.
P. pulcherrimum, Hook. Bot. Mag. t., 2979.

Summit of South Kootanie Pass, Lat. 49° ; also, western summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*) In the bed and along the slopes of Blackwater River at the crossing of the Telegraph Trail, B.C. (*Macoun.*)

(1533.) **P. cæruleum,** Linn.

P. cæruleum, var. *vulgare,* Hook. Fl. II., 71.

Canada. (*Sheppard.*) Along the base of the Rocky Mountains. (*Drummond.*) Arctic Sea coast. (*Richardson.*) Eliguck Lake, northern British Columbia. (*Dawson.*) Norton Sound to Point Barrow ; islands of St. George, Ounalashka and Chamisso. (*Rothr. Alask.*)

Var. **acutiflorum,** Ledeb.

High north-west coast and Aleutian Islands. (*Gray.*)

(1534.) **P. micranthum,** Benth.

Damp grassy places, above Boston Bar, on the Wagon Road, along the Fraser, B.C. (*Macoun.*) Vicinity of Victoria, Vancouver Island. (*Fletcher.*)

LXVI. HYDROPHYLLACEÆ. WATER-LEAF FAMILY.

406. HYDROPHYLLUM, Linn. (WATER-LEAF.)

(1535.) **H. capitatum,** Dougl.

On gravelly hillsides, western summit of the North Kootanie Pass ; also in the Cascade Mountains on Skagit River, B.C. (*Dawson.*)

(1536.) **H. Virginicum,** Linn.

Woodfield, near Quebec, 1820. (*Sheppard.*) Nicolet, Montreal and Eastern Townships. (*Maclagan.*) Beauharnois Co., Q. (*McGill Coll.*

Herb.) Common in rich woods from the River Ottawa westward throughout Ontario to the Georgian Bay. (*Macoun.*) North-west coast of America. (*Scouler.*) Washington Territory and north to Alaska. (*Gray.*)

(1537.) **H. Canadense,** Linn.

Rich damp woods, western Ontario. Vicinity of Hamilton, Ont. (*Logie.*) Neighborhood of London, Ont. (*Burgess.*) Woods two miles west of Collingwood; also in woods at Jones' Falls, and along the road leading to Sydenham Falls, Owen Sound. (*Macoun.*) Rich, woody ravine, Sable, Ont. (*McGill Coll. Herb.*)

(1538.) **H. appendiculatum,** Michx.

Damp woodlands, western Ontario. Abundant in thickets on Pelee Point, Lake Erie. (*Macoun.*) Malden, Ont. (*Maclagan.*) Vicinity of Cove and elsewhere, around London, Ont. (*Burgess & Saunders.*)

407. NEMOPHILA, Nutt. (NEMOPHILA.)

(1539.) **N. parviflora,** Dougl.

N. pedunculata, Hook. Fl. II., 79.

Two forms of this species are common in early spring in the vicinity of Victoria, Vancouver Island. The taller form is identical with specimens from Washington Territory, but the smaller, which has been raised from seed by Mr. Fletcher is very much branched, and lies prostrate on the ground both when cultivated and in a wild state. I very much doubt their identity.

408. ELLISIA, Linn. (ELLISIA.)

(1540.) **E. Nyctelea,** Linn.

In thickets where the fire has run through in the southern part of the prairie region. Eastern crossing of the Souris River, 49th parallel. (*Burgess.*) In thickets at the base of the Dirt Hills; at the eastern end of the Cypress Hills and at the head of the Qu'Appelle River and "River that Turns." (*Macoun.*) Along the Saskatchewan. (*Bourgeau.*) Source of the White Mud River, Cypress Hills and near Maple Creek Station, C.P.R., N.W.T. (*J. M. Macoun.*)

409. PHACELIA, Juss.

(1541.) **P. circinata,** Jacq. f.

P. hastata, Dougl. Hook. Fl. II., 80.
P. heterophylla, Pursh Fl. I., 140.

Dry gravelly hills and mountains. South Kootanie Pass, and on gravel slopes at Michell Creek, Crow Nest Pass, Rocky Mountains; also at Cornwall's, near Câche Creek, B.C. (*Dawson.*) On gravelly slopes along the Thompson River between Lytton and Câche Creek. (*Macoun & Fletcher.*)

(1542.) **P. sericea,** Gray.

Eutoca sericea, Lehm. Hook. Fl. II., 79.

Sandy debris of the Rocky Mountains, Lat. 52–56°. (*Drummond.*) Borders of British Columbia. (*Gray.*) On the lower ledges of the Rocky Mountains, Bow River Pass. (*Macoun.*)

Var. **Lyallii,** Gray.

Rocky Mountains in Lat. 49°, at 6–7,000 feet. (*Lyall.*) Summit of South Kootanie Pass, 49th parallel; also on the western summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*)

(1543.) **P. Franklinii,** Gray.

Eutoca Franklinii, R. Br. Hook. Fl. II., 79.

Shores of Lake Superior. (*Gray.*) On dry sandy hillsides, 20 miles up the Kaministiquia, not common; also, abundant on burnt hills left bank of Nipigon River, four miles below Camp Alexander. (*Macoun.*) From the Saskatchewan to English and Bear Lake rivers. (*Richardson.*) In burnt woods from the Grand Rapid of the Saskatchewan to the Rocky Mountains. (*Drummond.*) Eliguck Lake, northern British Columbia. (*Dawson.*)

(1544.) **P. Menziesii,** Torr.

Eutoca Menziesii, Benth. Hook. Fl. II., 79.
Hydrophyllum lineare, Pursh Fl. I., 134.

Open gravelly or very dry soil. On dry ridges, Milk River, 49th parallel; along the Flat Head River, and up the Nicola Valley, B.C. (*Dawson.*) On dry hillsides along the Thompson River above Spence's Bridge, B.C. (*Macoun & Hill.*) From Lytton to Spence's Bridge, B.C. (*Fletcher.*)

410. ROMANZOFFIA, Cham.

(1545.) **R. Unalaschkensis,** Cham.

Saxifraga nutans, Don. Hook. Fl. I., 245.

Unalashka and adjacent islands. (*Gray.*)

(1546.) **R. Sitchensis,** Bongard.

Sitka. (*Hook. Arct. Pl.*) Sitka, southward along the coast ranges. (*Gray.*)

LXVII. BORRAGINACEÆ. Borage Family.

411. HELIOTROPIUM, Linn. (HELIOTROPE.)

(1547.) **H. Curassavicum,** Linn.

Abundant on the margins of saline or brackish lakes in the south-western part of the prairie region. On the borders of Gull Lake, Island Lake, and Stinking Lake north of the Cypress Hills; also along Hand Hill Lake and other lakes eastward towards the Saskatchewan. (*Macoun.*)

412. PECTOCARYA, DC.

(1548.) **P. penicillata,** A. DC.

Cynoglossum penicillatum, Hook. & Arn. Bot. Beech, 371.

On very dry soil at Lytton, B.C. The particular spot is between the Wagon Road and the river at the Forks of the Fraser and Thompson. (*Macoun.*)

413. CYNOGLOSSUM, Linn. (HOUNDSTONGUE.)

(1549.) **C. officinale,** Linn. Common Houndstongue. Sheep Bur.

Sparingly introduced in eastern Quebec, but becoming common at Montreal. In Ontario it has become a pest. Along roadsides, in pastures and vacant lots and on the borders of woods which have lately been burned, it takes the place of everything else and sheep running at large have their wool filled with its hooked fruit.

(1550.) **C. Virginicum,** Linn. Wild Comfrey.

C. amplexicaule, Michx. Fl. I., 132.

Petitcodiac, N.B. (*Brittain.*) In woods in the vicinity of Gaspé Basin, Q. (*Macoun.*) Montreal Mountain. (*Holmes.*) Calamut and Belœil Mountain, Q. (*McGill Coll. Herb.*) King's Mountain, Chelsea, and near Green's Creek, Ottawa. (*Fletcher.*) Sandy woods, Rice Lake Plains, near Castleton; a little west of Gerow's Tavern, Murray, Northumberland Co., and near Marmora Village, Hastings Co., Ont. (*Macoun.*) Vicinity of Galt, Ont. (*Miss Crooks.*) Very rare in the neighborhood of London, Ont. (*Burgess & Saunders.*) North shore of Lake Superior. (*Agassiz.*) On top of a high clay bank, four miles up the Kaministiqua River, Thunder Bay; also, abundant on the Pine Portage, Nipigon River. (*Macoun.*) Lake Huron to the Rocky Mountains. (*Drummond & Dr. Todd.*) The western range is doubtful.

(1551.) **C. grande,** Dougl. Hook. Fl. II., 85.

Thick woods near the southern boundary of British Columbia. (*Cowley.*) Shady woods, North-west Coast. (*Douglas.*)

(1552.) **C. ciliatum,** Dougl. Hook. Fl. II., 85.

Dry banks of mountain streams, Little Falls of the Columbia and upwards to the Rocky Mountains. (*Douglas.*) To be looked for in the Rocky Mountains.

414. ECHINOSPERMUM, Swartz. (STICKSEED.)

(1553.) **E. floribundum,** Lehm.

Lake Pentanguishene (Georgian Bay) to the Rocky Mountains. (*Drummond.*) Lake Winnipeg to British Columbia. (*Gray.*) Red River, Turtle and Wood Mountains, 49th parallel. (*Dawson.*) Souris Plain, and at the source of the White Mud River, Cypress Hills. (*J. M. Macoun, C. P. R. Coll.*) Thickets at the Red Deer Lakes west of the Elbow of the South Saskatchewan, and in thickets at the eastern end of the Cypress Hills; also near McLeod's Lake, northern British Columbia, Lat. 55°. (*Macoun.*) In thickets at Spence's Bridge, B.C. (*Hill.*)

(1554.) **E. deflexum,** Lehm.

Saskatchewan and Winnipeg Valley. (*Gray.*) Cumberland House on the Saskatchewan. (*Drummond.*) Lower slopes of the South Kootanie Pass, 49th parallel; western summit of the North Kootanie

Pass, Rocky Mountains. (*Dawson.*) Turtle Mountain, 49th parallel. (*Burgess.*) Thickets along Maple Creek, Cypress Hills. (*J. M. Macoun.*)

(1555.) **E. Virginicum,** Lehm.

Cynoglossum Morisoni, DC. Gray, Man. 366. Macoun's Cat., No. 1375.
Myosotis Virginiana, Linn. Pursh Fl. I., 134.

Borders of woods lately burnt over and in open thickets. Abundant from the vicinity of Quebec to the north shore of Lake Superior at Mamainse. (*Macoun.*) Canada to the Saskatchewan. (*Drummond.*)

(1556.) **E. Lappula,** Lehm. Small Sheep Bur.

Myosotis Lappula, Willd. Pursh Fl. I., 134.

Extensively naturalized throughout Ontario and a very troublesome weed in vacant lots in the vicinity of towns and villages. It is curious that with the exception of a few plants observed by myself at Truro, Nova Scotia, and a few detected at Eel River, Restigouche Co., N.B., by Prof. Fowler, neither it nor the Houndstongue has been noticed in the Maritime provinces. We have it, however, from the North-West and British Columbia, where it will soon establish itself.

(1557.) **E. Redowskii,** Lehm. Var. **occidentale,** Watson.

E. patulum, Lehm. Hook. Fl. II., 84.

Cumberland House to Bear Lake. (*Richardson.*) Common on dry gravelly places in the prairie region from Manitoba westward. (*Macoun.*) Pembina Mountain, 49th parallel. (*Burgess.*) Common in the vicinity of Maple Creek, Cypress Hills. (*J. M. Macoun.*)

Var. **cupulatum,** Gray.

Abundant in the dry interior of British Columbia, from above Yale to Câche Creek and Kamloops. (*Macoun, Dawson & Hill.*) Dry hills vicinity of Victoria, Vancouver Island. (*Fletcher.*)

415. ERITRICHIUM, Schrad.

(1558.) **E. nanum,** Schrader. Var. **aretioides,** Herder.

E. aretioides, DC. Prodr. X., 125.

North-west Coast and islands. (*Gray.*) Cape Lisburne and island of St. Lawrence. (*Rothr. Alask.*)

Var. **Chamissonis,** Herder.

E. Chamissonis, DC. Prodr. X., 125.

Island of St. Paul, off the coast of Alaska. (*Gray.*)

(1559.) **E. plebeium,** A. DC.

Lithospermum plebeium, Cham & Schlecht. in Linn IX., 446.

Ounalashka. (*Rothr. Alask.*) Aleutian Islands. (*Gray.*)

(1560.) **E. Californicum,** DC.

Myosotis Californica, Fisch & Meyer. 1835.

On places where water lies in small pools in the spring; dry open prairie west of Hand Hills and north of the Cypress Hills; also near Old Wives Lakes. (*Macoun.*) Maple Creek, near Cypress Hills. (*J. M. Macoun.*) Vicinity of Victoria, Vancouver Island. (*Macoun & Fletcher.*)

(1561.) **E. Chorisianum,** DC.

Myosotis Chorisiana, Cham. & Schlecht. Hook. Fl. II., 83.

Vicinity of Victoria, Vancouver Island. (*Macoun & Fletcher.*)

(1562.) **E. fulvum,** A. DC.

Myosotis fulva, Hook. Fl. II., 83.

In ditches in the vicinity of Victoria, Vancouver Island. (*Macoun & Dawson.*) Câche Creek, B.C. (*Hill.*)

(1563.) **E. tenellum,** Gray.

E. fulvum, Watson, Bot. King, 243.

British Columbia. (*Gray.*) It is quite possible that this species and the preceding are the same, but without better specimens I cannot determine their identity.

(1564.) **E. lelocarpum,** Watson.

Myosotis flaccida, Dougl. Hook. Fl. II., 82.

Dry soil where water stands in the spring along the Red Deer River at the Hand Hills; also on dry soil north of the Cypress Hills. (*Macoun.*) Dry ground interior of British Columbia. (*Hill & Fletcher.*)

(1565.) **E. crassisepalum,** Torr. & Gray.

Nebraska to the Saskatchewan. (*Gray.*) I have never seen this species.

(1566.) **E. glomeratum,** DC.

Myosotis glomerata Nutt. Hook. Fl. II., 82.
Cynoglossum glomeratum, Pursh Fl. II., 729.

Dry gravelly hills and tops of ridges from Brandon westward across

the prairie region. (*Macoun.*) Hill of the Murdered Scout and westward along the 49th parallel to the Rocky Mountains, and abundant on dry plains along Old Man River west of Fort McLeod. (*Dawson.*) From Moose Jaw westward to Medicine Hat along the C. P. R.; also abundant in the Cypress Hills along the sides of coulées. (*J. M. Macoun.*) About Fort Carlton, on the Saskatchewan. (*Richardson.*) The leaves vary very much in old specimens, but the nutlets are never smooth.

Var. **humile,** Gray.

Rocky Mountains along the 49th parallel at an altitude of 8,000 feet. (*Gray.*)

(1567.) **E. leucophæum,** A. DC.

Myosotis leucophæa, Dougl.

British Columbia. (*Gray.*) Probably along the southern boundary.

416. AMSINCKIA, Lehm.

(1568.) **A. intermedia,** Fisch. & Meyer.

Echium Menziesii, Lehm. Macoun's Cat., No. 1378.

Dry gravelly hillsides at Victoria, Vancouver Island. (*Macoun & Dawson.*)

(1569.) **A. lycopsoides,** Lehm. Var. **bracteosa,** Gray.

Lithospermum lycopsoides, Lehm. Hook. Fl. II., 89.

Vicinity of Victoria, along the coast of Vancouver Island. Apparently quite common. (*Macoun & Fletcher.*)

417. MERTENSIA, Roth. (SMOOTH LUNGWORT.)

(1570.) **M. maritima,** Don. Sea Lungwort.

Lithospermum maritimum, Lehm. Hook. Fl. II., 86.
Pulmonaria parviflora, Pursh Fl. I., 131.

Gravelly beaches along the sea shore of our Atlantic coast, Gulf of St. Lawrence and Hudson Bay and westward at various points on the Arctic Coast to the Pacific and southward on sea beaches to Lat. 49°.

(1571.) **M. Virginica,** DC.

Pulmonaria Virginica, Linn. Pursh Fl. I., 130.

Alluvial banks. Point Albino at the foot of Lake Erie, Ont. (*David F. Day.*)

(1572.) **M. oblongifolia,** Don.

Lithospermum marginatum, Lehm. Hook. Fl. II., 86.

Mountains of Montana to the borders of British Columbia. (*Gray.*)

(1573.) **M. Sibirica,** Don.

Lithospermum denticulatum, Lehm. Hook. Fl. II., 87.
Pulmonaria Sibirica, Pursh Fl. II., 729.
Mertensia ciliata, Don. DC. Prodr. X., 92.

Kotzebue Sound. (*Rothr. Alask.*) Doubtless on the mountains of British Columbia.

Var. **Drummondii,** Gray.

Lithospermum Drummondii, Lehm. Hook. Fl. II., 86.
Mertensia Drummondii, Don. Syst. IV., 319.

Arctic seashore. (*Richardson.*)

(1574.) **M. paniculata,** Don.

M. pilosa, DC. X., 92. Agassiz, Lake Superior.
Lithospermum paniculatum, Lehm. Hook. Fl. II., 87.
L. corymbosum, Lehm. Hook. Fl. II., 87.
Pulmonaria paniculata, Ait. Pursh Fl. I., 131.

Very abundant around Thunder Bay and at many points on the shores of Lake Superior. (*Macoun & Burgess.*) From Fort William to the Rocky Mountains. (*Drummond.*) In woods along Lakes Manitoba and Winnipegoosis, and up the Red Deer River, Lat. 53°. (*Macoun.*) West coast of Lake Winnipeg. (*Capt. Back.*) East side of Lake Winnipeg at Observation Point. (*J. M. Macoun.*) North Fork of Old Man River, Rocky Mountains; also in the Pine Pass, Lat. 55°. (*Dawson.*) Saskatchewan to Hudson Bay and westward to Bear Lake (*Richardson.*) York Factory and up the Nelson River; also, Echisnamish River to Oxford House. (*R. Bell.*) Kotzebue Sound and Fort Youcon. (*Rothr. Alask.*) Lake Lindeman, source of the Youcon River. (*Schwatka.*)

(1575.) **M. lanceolata,** DC.

Pulmonaria lanceolata, Pursh Fl. II., 729.
Mertensia alpina, Gray, in Am. Journ. Sci., in part.

Hillsides from Dakota to Wyoming. (*Gray.*) Wood Mountain, 49th parallel. (*Burgess.*) Souris Plain near the 49th parallel. (*Creelman, C. P. R. Coll.*)

418. MYOSOTIS, Linn. (FORGET-ME-NOT.)

(1576.) **M. laxa,** Lehm.

M. palustris, var. *micrantha,* Hook. Fl. II., 81.
M. cæspitosa, var. *laxa,* DC. Prodr. X., 105.
M. palustris, var. *laxa,* Gray, Man. Ed. V., 365. Macoun's Cat., No. 1363.

Abundant in ditches and small brooks. Harbor Grace, Newfoundland. (*McGill Coll. Herb.*) Near Halifax, N.S. (*Lawson.*) Windsor, N.S. (*How.*) Pictou, N.S. (*McKay.*) Kingston, N.S. (*Macoun.*) In wet ditches at Point Le Nim, Restigouche Co., N.B. (*Fowler's Cat.*) In ditches near Matane, Lower St. Lawrence. (*Macoun.*) In ditches at Rivière-du-Loup, Q. (*Thomas.*) Knowlton, Eastern Townships, Q. (*McGill Coll. Herb.*) In ditches around Belleville, quite common; also on both sides of the Bay of Quinte. (*Macoun.*) Chippawa and Thorold. (*Maclagan.*) Wet places, Hamilton, Niagara Falls and London. (*Burgess.*) Wet places at Hamilton, Ont. (*Logie.*) Near Port Colborne, Ont. (*David F. Day.*) Vicinity of Toronto. (*Fowler.*)

(1577.) **M. palustris,** With.

In wet ground, probably introduced. (*Gray.*) Vicinity of Halifax, N.S. (*Lawson & Sommers.*) Windsor, N.S. (*How.*) Dalhousie, N.B.; also Ladner's Landing on the Lower Fraser, B.C. (*Fletcher.*)

(1578.) **M. sylvatica,** Hoffm. Var. **alpestris,** Koch.

M. alpestris, Lehm. Hook. Fl. II., 81.

Summit of the South Kootanie Pass; also the eastern summit of the North Kootanie Pass; and at the summit of the Pine River Pass, Lat. 55°. (*Dawson.*) Common in the Rocky Mountains, between Lat. 52°–56°. (*Drummond.*) Arctic seashore. (*Richardson*) Mackenzie River, near Fort Simpson, Lat. 62° 30′. (*McGill Coll. Herb.*) Cape Lisburne and Arctic coast. (*Rothr. Alask.*) West of Mackenzie River, Lat. 71°, Long. 154° west. (*Dease.*)

(1579.) **M. arvensis,** Hoffm.

Fields in low grounds, New Brunswick, perhaps not native. (*Gray.*) Parrsboro', Cumberland Co., N.S. (*How.*) On waste heaps at Bedford, N.S. (*Macoun.*) Spreading from a garden at Bass River, Kent Co., N.B. (*Fowler's Cat.*) St. Andrews, N.B. (*Vroom.*) Along roadsides at London and Parry Sound, Georgian Bay, Lake Huron. (*Burgess.*) Certainly *introduced* in Ontario.

(1580.) **M. verna,** Nutt.

Myosotis stricta, Gray, Man. Ed. I., not Link.

Very common on dry rocky ground on both sides of the Bay of Quinte, at Ox Point and Massassaga Point; also on Gibson's Mountain, four miles from the Ferry House, opposite Belleville, Ont. (*Macoun.*) Malden, Ont. (*Maclagan.*)

Var. **macrosperma,** Chapm.

M. versicolor, Lehm. Hook. Fl. II., 81.

On dry gravelly hillsides in the vicinity of Victoria, Vancouver Island. (*Macoun.*) Near Câche Creek, B.C. A very small form. (*Hill.*)

419. LITHOSPERMUM, Linn. (GROMWELL.)

(1581.) **L. arvense,** Linn. Corn Gromwell.

Naturalized in waste grounds and cultivated fields amongst wheat; also spreading along railways. Apparently unknown in the eastern provinces, but abundant from Montreal westward throughout Ontario.

(1582.) **L. officinale,** Linn.

Naturalized by roadsides and in old pasture fields and on commons; growing in clumps. Montreal and St. Rémi and numerous places around Montreal, abundant. (*McGill Coll. Herb.*) Fraserville, Q. (*Thomas.*) Frequent by roadsides and in cities and towns throughout Ontario.

(1583.) **L. latifolium,** Michx.

Open ground and borders of thickets, western Ontario. (*Gray.*) Bois Blanc and other islands in Detroit River. (*Maclagan.*) Alluvial flats along the River Thames at London, Ont. (*Burgess.*)

(1584.) **L. pilosum,** Nutt.

L. ruderale, Dougl. Hook. Fl. II., 89.

On dry gravelly hillsides. Ridges north of Cypress Hills; and at Fossil Coulée, Milk River Ridge, south east of Fort McLeod. (*Dawson.*) Dry gravelly hillsides near Spence's Bridge, B.C. (*Macoun & Hill.*) The British Columbia specimens are much less hairy than the eastern ones and in this respect agree with those from California.

(1585.) **L. canescens,** Lehm. Puccoon of the Indians. (*Gray.*)

Batschia canescens, Michx. Fl. I., 130.
L. sericeum, Lehm. Hook. Fl. II., 88.

Plains and open sandy woods. On the sands of Wellington Beach, Prince Edward Co., Ont.; and very abundant along the Grand Trunk Railway near Sarnia. (*Macoun.*) Malden and Sandwich, Ont. (*Maclagan.*) Sandy soil near London, Ont. (*Burgess.*) Common on the Burford Plains, Brant Co., Ont. (*Yates.*) Two miles below Kakabeka Falls on the Kaministiquia River; at the mouth of Rainy River, and westward across the prairie to the South Saskatchewan. Abundant in Manitoba and especially south of Brandon on the Souris Plain. (*Macoun.*) Red River Prairie and Pembina Mountain on the 49th parallel. (*Dawson.*) Canada to the Saskatchewan. (*Richardson.*)

(1586.) **L. hirtum,** Lehm.

Batschia Gmelini, Michx. Fl. I., 130.

Port Erie and Point Albino, at the outlet of Lake Erie. (*David F. Day.*) On the sandy beach of Pelee Point, Lake Erie, in large tufts. (*Macoun.*) In the vicinity of Sarnia, River St. Clair, Ont. (*Burgess.*) Upper Canada. (*Goldie.*) Lake Huron. (*Dr. Todd*) Long Point, Lake Erie. 1843. (*Macnab.*) Bosanquet, shore of Lake Huron, Ont. (*McGill Coll. Herb.*) Vicinity of Toronto. (*Fowler.*) Point Edward, near Sarnia, Ont. (*J. M. Macoun.*)

(1587.) **L. angustifolium,** Michx.

Batschia longiflora, Pursh Fl. I., 132.
L. incisum, Lehm. Hook. Fl. II., 87.
L. Mandanense, Hook. Fl. II., 88.
Pentalophus longiflorus and *P. Mandanensis,* A. DC. Prodr. X., 87.

Banks of the Saskatchewan to Lat. 55° (*Richardson.*) Along the Eagle and Red Deer rivers (hills ?); also in the valleys of the Rocky Mountains, near the sources of the Athabasca. (*Drummond.*) Abundant from Manitoba westward to the Rocky Mountains. (*Macoun.*) Souris Valley, 49th parallel; on top of gravel ridge, Verdigris Coulée, north of Milk River; also, Nicola Valley, B.C. (*Dawson.*) Vicinity of the Thompson River from Lytton to Câche Creek; Crossing of the Blackwater River, Telegraph Trail, B.C. (*Macoun.*)

420. ONOSMODIUM, Michx.

(1588.) **O. Carolinianum,** DC.

Alluvial soil in river bottoms; growing in clumps. At Belleville, on commons, along the Moira River; also in Cold Creek Valley at Wooler,

Northumberland Co., Ont. (*Macoun.*) Brantford, Ont. (*Maclagan.*) Not uncommon in the valley of the Thames at London, Ont. (*Saunders & Burgess.*)

Var. **mollis**, Gray.

Onosmodium molle, Michx. Fl. I., 133.
O. hispidum, Michx. Bourgeau in Palliser's Report, p. 259.

Vicinity of Winnipeg. (*Bourgeau.*) Turtle Mountain, 49th parallel. (*Dawson.*) On the Bow River at the Blackfoot Crossing east of Calgary. (*Macoun.*)

(1589.) **O. Virginianum**, DC.

O. hispidum, Michx. Fl. I., 133.

Hillsides and banks. Vicinity of London, Ont. (*Burgess.*) Island of Orleans near Quebec. (*Thomas.*) I suspect Dr. Thomas means *Lithospermum officinale* in the above quotation.

421. SYMPHYTUM, Linn. (COMFREY.)

(1590.) **S. officinale**, Linn.

This plant is *naturalized* in most of the older settlements, but does not spread. Harbor Grace, Newfoundland. (*McGill Coll. Herb.*) In waste places at Yarmouth, N.S. (*Macoun.*) Apparently naturalized in St. John Cemetery, N.B. (*Fowler's Cat.*) Montreal Mountain; Cowansville, Eastern Townships, Q.; and St. Thomas, Ont. (*McGill Coll. Herb.*) Rideau Rifle-range, Ottawa, and at Buckingham, Q. (*Fletcher Fl. Ott.*) Roadsides and old neglected gardens, Northumberland Co., Ont.; also along the streets of Owen Sound, Ont. (*Macoun.*) Niagara Falls. (*Maclagan.*) Vicinity of London, Ont. (*Saunders & Burgess.*) Our form is the Var. *patens* of Smith's English Botany.

422. LYCOPSIS, Linn. (BUGLOSS.)

(1591.) **L. arvensis**, Linn.

Dry waste grounds *naturalized* principally eastward. On ballast heaps, Pictou, N.S. (*Macoun.*) Sand Beach, Eel River, Restigouche Co., N.B. (*Fowler's Cat.*) On the beach at Rustico, Prince Edward Island; also at Kamouraska, Q. (*McGill Coll. Herb.*) Occasionally seen in fields and waste places along the Gaspé coast up to Métis. (*Macoun.*) Occasionally about dwellings, Rivière-du-Loup, Q. (*Thomas.*)

Montreal Mountain. (*Maclagan.*) Sandy fields in the vicinity of Ottawa. (*Fletcher Fl. Ott.*) In the streets of Kingston near the Court House, Ont. (*Macoun.*)

423. ECHIUM, Linn. (VIPER'S BUGLOSS, BLUEWEED.)

(1592.) **E. vulgare,** Linn.

Roadsides and sandy pasture fields, *naturalized* and spreading. Near New Glasgow, N.S. (*How.*) Quaco and Petitcodiac, N.B. (*Brittain.*) Abundant in sandy pasture fields near Ottawa. (*Fletcher Fl. Ott.*) Roadsides, common and abundant on sand-banks, a few miles north of Prescott, Ont. (*Billings.*) Roadsides near Belleville and in pastures near Albert College; also on the Oak Hills and at Stirling, Hastings Co.; in farmers' lanes and along roadsides near Campbellford, Ont. (*Macoun.*) Banks of the Thames, near London, common. Flowers both blue and white. (*Saunders & Burgess.*) Delaware and Lobo, Ont. (*McGill Coll. Herb.*) Spreading in a wonderful manner in West Toronto and Brocton, on the dry sand. There are acres of it annually. (*Fowler.*)

424. BORRAGO, Linn. (COMMON BORAGE.)

(1593.) **B. officinalis,** Linn.

A garden *escape* in some places in Nova Scotia. (*Lindsay.*) In the streets of Brighton village, Northumberland Co., Ont. (*Macoun.*) Growing in the township of Mariposa on the gravel road near Grasshill, where it appears to be completely naturalized. Seeds very likely brought from Devonshire by immigrants who settled in the neighborhood. (*Fowler.*)

LXVIII. CONVOLVULACEÆ. Bindweed Family.

425. IPOMŒA, Linn. (MORNING GLORY.)

(1594.) **I. purpurea,** Lam. Common Morning Glory.

An *escape* from cultivation, but seldom becoming established. Near dwellings at Windsor, N.S. (*How.*) Frequent on waste heaps and near dwellings at Belleville, Ont. (*Macoun.*) Vicinity of London, Ont. (*Burgess.*)

(1595.) **I. pandurata,** Meyer. Man-of-the-earth.

Convolvulus panduratus, Michx. Hook. Fl. II., 77.

Dry ground, western Ontario. (*Gray.*) In deep, warm, gravelly soil, at the southern end of Pelee Point, Lake Erie. (*Macoun.*)

426. CONVOLVULUS, Linn. (BINDWEED.)

(1596.) **C. Soldanella,** Linn.

Calystegia Soldanella, R. Br. DC. Prodr. IX., 433.

Sands of the Pacific coast to Puget Sound. (*Gray.*) It probably reaches British Columbia.

(1597.) **C. spithamæus,** Linn.

Calystegia spithamæa, Pursh. Gray, Man. Ed. V., 376. Macoun's Cat., No. 1407.

C. tomentosa, Pursh. Fl. I., 434.

Convolvulus stans, Michx. Fl. I., 136.

Dry gravelly hillsides and open woods. Pennant, N.S. (*Sommers.*) Hills of St. Maurice, Q. (*Maclagan.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Grand Trunk gravel pit west of Prescott, Ont. (*Billings.*) Dry gravelly hillsides and borders of fields, common, Hastings and Northumberland counties, Ont. (*Macoun.*) Vicinity of Toronto. (*Fowler.*) Common on gravelly soil in the vicinity of London, Ont. (*Saunders & Burgess.*) Gravel ridges, north shore of Lake Superior; also, sandy hillsides, 20 miles up the Kaministiquia River and farther up the river and within the limits of Port Arthur. On the Souris Plain near the source of Pile of Bones Creek. (*Macoun.*) Red River Prairie at Emerson, 49th parallel; also, banks of Belly River. (*Dawson.*) Canada to the Saskatchewan. (*Drummond.*)

(1598.) **C. sepium,** Linn. Bracted Convolvulus.

Calystegia sepium, R. Br. Gray, Man. Ed. V., 376. Macoun's Cat., No. 1406.

Moist alluvial soil, generally along rivers. Flowers generally white or tinged with rose-color, peduncles elongated, bracts mostly acute. Chelsea Road, 5 miles from Ottawa. (*Fletcher.*)

Var. **Americanus,** Sims.

Calysteyia sepium, var. *rosea,* Choisy. DC. Prodr. IX., 433.

Same situations as the last, but distinguished by the corolla being pink, or rose purple, and the bracts obtuse. All references are placed under the variety as we have no means at present of judging which

form is meant. Neighborhood of Halifax, N.S. (*Lawson.*) Pictou, N.S. (*McKay.*) Parrsboro', Cumberland Co., N.S. (*How.*) Rather common near the coast, N.B. (*Fowler's Cat.*) Abundant throughout Ontario, and extending westward to the Kaministiquia River, Thunder Bay. (*Macoun.*)

Var. **repens,** Gray.

Calystegia sepium, var. *pubescens,* Gray, Man. Ed. V., 376.

In this variety the leaves are more or less pubescent and the bracts and leaves fringed with soft hairs. Lake of the Woods, Turtle Mountain, and Trader's Road near Wood Mountain, 49th parallel, all in flower. On the third prairie steppe it only appears along the borders of streams in sheltered positions. (*Dawson.*) Souris and Qu'Appelle rivers. (*J. M. Macoun, C. P. R. Coll.*) Frequent in thickets as far west as the Hand Hills, Long. 112°. (*Macoun.*) Canada to the Rocky Mountains. (*Richardson & Drummond.*)

Var. **maritima.** (?)

Specimens growing in a brackish marsh and occasionally covered by spring tides were obtained, near Sydney Mines, Cape Breton, in 1883. All parts of the plant were very pubescent and quite different from the pubescent form from the prairie region. On the Magdalen Islands in the Gulf of St. Lawrence. (*McKay.*) Eel River, N.B. (*Fletcher.*)

(1599.) **C. arvensis,** Linn. Bindweed.

Naturalized. On ballast heaps at Pictou, N.S. (*Macoun & McKay.*) In cultivated fields rather rare, N.B. (*Fowler's Cat.*) Beauharnois Co., Q., and at Strathroy, Ont. (*McGill Coll. Herb.*) Near Cumming's Bridge, and in the Public Park, Ottawa. (*Fletcher Fl. Ott.*) Bank of the St. Lawrence, a mile west of Prescott, Ont. (*Billings.*) Introduced into gardens at Belleville, with strawberry plants and spreading; roadsides near Essex Centre, Ont. (*Macoun.*) Vicinity of London, Ont. (*Burgess.*) Vicinity of Hamilton, Ont. (*Buchan.*) On the Insane Asylum Farm, Toronto. (*Fowler.*)

427. CUSCUTA, Linn. (DODDER.)

(1600.) **C. arvensis,** Beyrich.

On dry gravelly ridges, Manitoba and westward. Climbing over low plants of *Lygodesmia juncea* at Pine Creek, Manitoba, and on *Artemisia frigida* on the Cypress Hills. Specimens identified by Dr. Englemann.

(1601.) **C. tenuiflora,** Engelm.

From Wisconsin north to the Saskatchewan. (*Gray.*)

(1602.) **C. salina,** Engelm.

Saline or brackish marshes of the Pacific coast. (*Gray.*) On short stems of *Salicornia,* in marshes near Victoria, Vancouver Island. (*Fletcher.*)

(1603.) **C. Gronovii,** Willd.

C. umbrosa, Beyrich. Hook. Fl. II., 78, in part.

Wet shady places, especially in the valleys of large or small streams. Grand Lake near Halifax, N.S. (*McKay.*) Twining around grass and other herbaceous plants, mouth of the Kennebecasis, N.B. (*Fowler's Cat.*) Wet places, by brooks, St. Stephen, N.B. (*Vroom.*) Boucherville Island, near Montreal. 1821. (*Holmes.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Border of a small stream, one mile north of O'Brien's Bridge, Hastings Co.; border of Cold Creek at Wooler, Northumberland Co.; on an island in Cameron's Lake, near Fenelon Falls, Victoria Co., Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Chippawa, and on an island in Detroit River. (*Maclagan.*) Near Strathroy, Ont. (*McGill Coll. Herb.*) Vicinity of London, Ont. (*Burgess.*) Common around Lakefield, Ont. (*Mrs. Traill.*) Norway House Fort (*Drummond.*) Vicinity of Toronto. (*Fowler.*) Roseau River, 49th parallel. (*Dawson.*) Climbing over bushes, shore of Lonely Lake, near Lake of the Woods. (*R. Bell.*)

(1604.) **C. compacta,** Juss.

Almost always on shrubs. A plant with coarse stems having flowers nearly two lines long. Credited to Canada by Dr. Gray. Malden, Ont. (*Maclagan.*)

(1605.) **C. epilinum,** Weihe.

Introduced. In the vicinity of Pictou, N.S. (*McKay.*) Lower St. Lawrence, doubtless in fields. (*Burgess.*)

(1606.) **C. Trifolii,** Bab. Clover Dodder.

Noticed in a field of clover, which it had nearly destroyed, in Victoria Co., Ont. (*Fowler.*) *Introduced* with clover seed.

The species of this genus should be carefully collected and both their habitats and host plants noted.

LXIX. SOLANACEÆ. Potato Family.

428. SOLANUM, Linn. (NIGHTSHADE.)

(1607.) **S. triflorum,** Nutt

Around "badger" holes on the prairie, or where the sod has been broken. In the vicinity of Fort Carlton and at the entrance to "badger" holes westward to Edmonton. (*Drummond.*) Very common near "badger" holes and along the railways throughout the prairie region. (*Macoun.*) South of Wood Mountain, not uncommon over a great part of the second and third prairie steppes. Another form was observed at the First Crossing of the Souris in low ground, 49th parallel. (*Dawson.*) Rather common on the Souris Plain, and westward to the Blackfoot Crossing on Bow River. (*J. M. Macoun.*)

(1608.) **S. nigrum,** Linn.

Common in damp shady situations, especially in low woods lately burnt over. We seem to have two forms: one native which is low and spreading, and a stouter form which is commonly in cultivated grounds. Frequent in suitable localities from the Atlantic provinces to the Rocky Mountains and perhaps beyond.

(1609.) **S. Dulcamara,** Linn. Bittersweet.

Near dwellings, around gardens and in fence corners. It is also frequently found climbing over logs in low wet woods and in the vicinity of small brooks far from dwellings. Completely *naturalized* in Ontario and growing from seeds carried by birds.

(1610.) **S. rostratum,** Dunal.

S. heterandrum, Pursh Fl. I., 156.

Spontaneous within the limits of the city of Ottawa for a number of years. (*Fletcher Fl. Ott.*)

(1611.) **S. Carolinense,** Linn.

Sandy and waste grounds near Fort Erie at the foot of Lake Erie. (*David F. Day.*)

429. LYCOPERSICUM, Mill. (TOMATO.)

(1612.) **L. esculentum,** Mill. Cherry-Tomato.

Frequently spontaneous in gardens. Throughout Ontario tomato

seeds, that have lain on the ground all winter, vegetate in the spring and are often transplanted. Spontaneous in one or two places near Halifax, N.S. (*Lindsay.*) In this connection I may mention that potato seeds always grow in the North-west, after lying exposed on the surface of the ground all winter. While at Battleford, in the summer of 1879, I saw myriads of plants in an old potato patch, and in October of the same year found the ground covered with potato balls (fruit) the seeds of which would certainly grow the next spring. I conclude from the above that both the Tomato and Potato are perfectly at home in Canada, and that in our North-west new varieties of potatoes will yet be produced that will supersede the diseased or weakened ones of the east.

430. PHYSALIS, Linn. (GROUND CHERRY.)

(1613.) **P. Peruviana,** Linn. Cape Gooseberry.

Spontaneous in a few places about Ottawa. (*Fletcher Fl. Ott.*)

(1614.) **P. grandiflora,** Hook.

Shore of the St. Lawrence below Murray Bay. (*Sheppard & McGill Coll. Herb.*) Powell's Grist Mill near Ottawa. (*Fletcher Fl. Ott.*) Abundant in new clearings in the northern parts of Addington, Hastings, Peterboro' and Victoria counties, Ont.; also quite common in burnt woods, near Wiarton, Bruce Peninsula; also, along the C.P.R. between Red Rock and Port Arthur. (*Macoun.*) Malden, Ont. (*Maclagan.*) Township of Miraposa, Ontario Co., Ont. (*Fowler.*) North shore of Lake Superior. (*Agassiz.*) Sandy banks of the Saskatchewan, sparingly. (*Drummond.*) Near old encampments on the shores of Lake Winnipeg, where fires have been made. (*Richardson.*) Red River, rare. (*Douglas.*) Elk Island, Lake Winnipeg. (*J. M. Macoun.*)

(1615.) **P. pubescens,** Linn.

P. obscura, var. *viscido-pubescens,* Pursh Fl. I., 157.

Found occasionally in gardens, but scarcely spontaneous, N. B. (*Fowler's Cat.*) Vicinity of Ottawa on waste heaps. In cultivated ground Chinaman's Ranche, near Cache Creek, B.C. (*Fletcher.*)

(1616.) **P. Virginiana,** Mill.

P. viscosa, Gray, Man. Ed. V., 382. Macoun's Cat., No. 1422.
P. Pennsylvanica, Hook. Fl. II., 90, in part.

Light or sandy soils, western Ontario. Lake Huron, plentiful.

(*Dr. Todd.*) Sand hills, three miles up the Humber, west of Toronto; common at Niagara Falls, on Point Pelee and in new meadows, two miles west of Collingwood, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Malden and islands in Detroit River. (*Maclagan.*) In the neighborhood of St. Thomas. (*Miss Kate Crooks.*) Along the G. W. R. track east of London. (*Saunders.*) Vicinity of London and Port Stanley, Ont. (*Burgess.*) Strathroy, Ont. (*McGill Coll. Herb.*) Mount Pleasant Cemetery, Toronto. (*Fowler.*)

Var. **ambigua,** (*Gray.*)

P. viscosa, Linn. Dawson Bound. Rep. 352.
P. Pennsylvanica, Hook. Fl. II., 90, at least in part, (Gray).

Winnipeg and North-west Angle Road. (*Dawson.*) Vicinity of Winnipeg. (*Bourgeau.*)

(1617.) **P. lanceolata,** Michx.

P. Pennsylvanica, Gray, Man. Ed. V., 382.
P. Pennsylvanica, var. *lanceolata,* Macoun's Cat., No. 1418.

Sand, thickets and banks along the railway, Port Dover Junction, Ont.; also along a creek, 15 miles west of Rat Creek, Manitoba. (*Macoun.*) Dry open ground and bottoms, Lake Winnipeg. (*Gray.*)

431. NICANDRA, Adans. (APPLE-OF-PERU.)

(1618.) **N. physaloides,** Gærtn.

Introduced. Escaped from gardens at Windsor, N.S. (*How.*) Wild in some gardens at Montreal, 1821. (*Holmes.*) McGill College grounds, Montreal. (*McGill Coll. Herb.*) Vicinity of Belleville, and along a road near Essex Centre, Ont. (*Macoun.*) Port Stanley, Lake Erie. (*Burgess.*) Scarcely established, Fort Erie, Ont. (*David F. Day.*)

432. LYCIUM, Linn. (MATRIMONY VINE.)

(1619.) **L. vulgare,** Dunal. Box-thorn.

Introduced. Waste grounds and in fence corners near dwellings. Vicinity of Kingston and London, Ont. (*Burgess.*) At Belleville, Stirling, Campbellford, Brighton and Colborne, Ont. (*Macoun.*) Apparently naturalized around Hamilton, Ont. (*Buchan.*)

433. DATURA, Linn. (STRAMONIUM.)

(1620.) **D. Stramonium,** Linn. Thorn-apple, or Jamestown Weed.

Escaped from gardens at Mahone Bay and Windsor, N.S. (*How.*) In the streets of Pictou, N.S., and by roadsides near it. (*McKay.*) A weed, well established at St. Stephen and St. Andrews, N.B. (*Vroom.*) A weed in waste ground around towns and villages and by roadsides, throughout western Quebec and Ontario.

(1621.) **D. Tatula,** Linn.

Waste grounds rather rare. A weed in gardens at Stewarton near Ottawa. (*Fletcher Fl. Ott.*) At the village of Bath, Bay of Quinte; and on Pelee Point, Lake Erie. (*Macoun.*) Fort Erie at the foot of Lake Erie, Ont. (*David F. Day.*) Vicinity of Hamilton, Ont. (*Buchan.*) St. Thomas, Ont. (*McGill Coll. Herb.*)

434. HYOSCYAMUS, Linn. (HENBANE.)

(1622.) **H. niger,** Linn. Black Henbane.

Naturalized in the neighborhood of towns and villages, prefering vacant lots and the borders of streets. A garden escape in Nova Scotia. (*Sommers.*) On the ramparts of the "Old Fort," Annapolis, N.S. (*Macoun.*) Not common in New Brunswick. (*Fowler's Cat.*) Vicinity of Bathurst, N.B. (*McGill Coll. Herb.*) Waste places vicinity of Quebec. (*Thomas.*) In the streets of Quebec and Montreal. (*Maclagan.*) Common along roadsides in Montreal, 1821. (*Holmes.*) Roadsides in and around Ottawa. (*Fletcher Fl. Ott.*) Roadsides and streets in Prescott, Ont. (*Billings.*) Streets of Belleville near the upper bridge; on sites of burnt buildings, Cobourg, Ont., and on vacant lots in Toronto. (*Macoun.*) Malden, Ont. (*Maclagan.*) Fort Erie at the foot of Lake Erie, Ont. (*David F. Day.*) Abundant on the wastes about Garrison Creek commons, and on vacant land at the north-west corner of Toronto. (*Fowler.*)

435. NICOTIANA, Linn. (TOBACCO.)

(1623.) **N. rustica,** Linn. Indian Tobacco.

Introduced. A weed in gardens at Belleville and Canniffton near that city, Ont. (*Macoun.*) Spontaneous in gardens in and around Ottawa. (*Fletcher Fl. Ott.*) A garden weed at Fort Erie, Ont. (*David F. Day.*)

(1624.) **N. attenuata,** Torr.

Abundant on sand hills from Lytton to above Spence's Bridge, along the Thompson River, B.C. (*Hill & Fletcher.*)

LXX. SCROPHULARIACEÆ. Fig-wort Family.

436. VERBASCUM, Linn. (MULLEIN.)

(1625.) **V. Thapsus,** Linn. Common Mullein.

A very common *naturalized* weed by roadsides, borders of woods and in old and thin pasture fields throughout Ontario. In the same situations, but scarcely so common in the eastern provinces and Quebec.

(1626.) **V. Lychnitis,** Linn. White Mullein.

Fields and new meadows. Very rare. West Augusta, near Hamilton, Ont. (*Logie.*) Scarcely *naturalized.*

(1627.) **V. Blattaria,** Linn. Moth Mullein.

V. Claytoni, Michx. Fl. I., 148.

Naturalized by roadsides and in fields. Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Fields near Napanee, Ont. (*Rev. J. Scott.*) Near the Scotch Church, Burn Brae, Seymour, Ont.; also in abundance along a road between Niagara and Queenston, and at Niagara Falls. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Dundas, Ont. (*Maclagan.*) London and Niagara Falls. (*Burgess.*) Strathroy, Ont. (*McGill Coll. Herb.*) Parkdale, Toronto. (*Fowler.*)

437. LINARIA, Juss. (TOAD-FLAX.)

(1628.) **L. Canadensis,** Dumont. Wild Toad-Flax.

Antirrhinum Canadense, Pursh Fl. II., 421.

Sandy or gravelly soil, Canada. (*Gray.*) Halifax, N.S. (*How.*) St. Stephen, N.B. (*Vroom.*)

(1629.) **L. vulgaris,** Mill. Butter and Eggs.

Antirrhinum Linaria, Pursh Fl. II., 421.

Very common by roadsides, near gardens and in fence corners. Apparently common in Nova Scotia, but rarer in New Brunswick. In Quebec and Ontario, it is *naturalized* wherever there are settlements.

A monstrous state (*L. vulgaris*, var. *Peloria*), where each flower has five spurs, instead of one, has been found at Ottawa by Mr. Fletcher and in Nova Scotia by Mr. Trueman.

(1630.) **L. Elatine,** Mill.

Antirrhinum Elatine, Pursh Fl. II., 421.

Sandy banks and shores, rather rare. Canada. (*Gray.*) Scarcely *naturalized.*

(1631.) **L. Cymbalaria,** Mill. Ivy Linaria.

On the ballast wharf, St. John, N.B. (*Hay.*)

(1632.) **L. minor,** Desf.

On the ballast wharf, St. John, N.B. (*Hay.*)

438. ANTIRRHINUM, Linn. (SNAPDRAGON.)

(1633.) **A. Orontium,** Linn. Corn Snapdragon.

Sparingly *introduced* at Victoria, Vancouver Island. (*Fletcher.*)

439. COLLINSIA, Nutt.

(1634.) **C. grandiflora,** Dougl.

Grassy and gravelly hillsides, in great profusion, near Victoria, Vancouver Island. (*Dawson & Fletcher.*)

Var. **pusilla,** Gray.

Abundant around Victoria, Vancouver Island. (*Macoun & Hill.*) Coldwater River near Yale and on the Blackwater River in northern British Columbia. (*Dawson.*)

(1635.) **C. parviflora,** Dougl.

C. pauciflora, Lindl. Hook. Fl. II., 94.

On limestone shingle, Massassaga Point, near Belleville, Ont. (*Macoun.*) Lake Winnipeg. (*Capt. Back.*) Saskatchewan. (*Richardson.*) Western summit of the North Kootanie Pass, Rocky Mountains, Lat. 50°. (*Dawson.*)

440. SCROPHULARIA, Linn. (FIGWORT.)

(1636.) **S. nodosa,** Linn. Var. **Marilandica,** Gray.

S. nodosa, Linn. Gray, Man. Ed. V., 327. Macoun's Cat., No. 1241.
S. Marylandica, Linn. Hook. Fl. II., 94.
S. lanceolata, Pursh Fl. II., 419.

Montreal Mountain. 1821. (*Holmes.*) Quebec, and on the Island of Orleans. (*Thomas.*) Nicolet and Three Rivers, Q. (*Maclagan.*) Casselman Station, Carleton Co. (*Macoun.*) Common near Prescott, Ont. (*Billings.*) On the Thousand Islands in the St. Lawrence near Brockville; very common on islands in the Bay of Quinte; also by roadsides near Belleville; common on islands in Rice Lake. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Chippawa, Ont. (*Maclagan.*) Field near Cove, in the vicinity of London, Ont. (*Saunders & Burgess.*) Fort Erie, Ont. (*David F. Day.*) Wet places, north-west corner of Toronto. (*Fowler.*)

441. CHELONE, Linn. (TURTLE-HEAD. BALMONY.)

(1637.) **C. glabra,** Linn.

C. glabra var. *alba*, Pursh Fl. II., 427.

In bogs, wet meadows and by brooks. Quite common from Newfoundland, Nova Scotia, and New Brunswick westward throughout Quebec and Ontario. Lake of the Woods. (*Dawson.*) Turtle Mountain, 49th parallel. (*Burgess.*)

(1638.) **C. nemorosa,** Dougl.

C. ramosa, Dougl. Hook. Fl. II., 95.

Woods along mountain streamlets. Woods in the Kootanie Pass, Rocky Mountains, 49th parallel. (*Dawson.*)

442. PENTSTEMON, Mitchell. (BEARD-TONGUE.)

(1639.) **P. Menziesii,** Hook.

P. Lewisii, Benth. DC. Prodr. X., 321.
Gerardia fruticosa, Pursh Fl. II., 423.

On rocks and mountain tops. Summit of South Kootanie Pass; also, eastern summit of North Kootanie Pass. (*Dawson.*) Bow River Pass, Rocky Mountains. (*Macoun.*)

Var. **Scouleri,** Gray.

P. Menziesii, Hook. Fl. II., 98, in part.

Along the southern boundary of British Columbia. (*Lyall.*) Very abundant in the Cascade Mountains, along the Fraser River, above Yale, B.C. (*Macoun, Dawson & Hill.*) Nutka. (*Menzies.*)

(1640.) **P. frutescens,** Lamb.

Ounalashka. (*Pallas.*) Dr. Gray doubts the occurrence of this plant on the above island.

(1641.) **P. acuminatus,** Dougl.

P. nitidus, Dougl. Bourgeau, Pl. 259.

Red Deer and Eagle Hills, and other dry places on the Saskatchewan, Assiniboine and Red rivers. (*Richardson & Douglas.*) Dry banks near Short Creek, Souris River, 49th parallel; also Fossil Coulée, Milk River Ridge. (*Dawson.*) Abundant on the dry slopes of the Assiniboine River, at and above Brandon, on the dry slopes of the Qu'Appelle River near its mouth, and frequent farther west on dry ridges and upper slopes of coulée and river banks. (*Macoun.*) On gravel hills at Moose Mountain Creek, and abundant on dry slopes in the Cypress Hills and at Maple Creek. (*J. M. Macoun, C. P. R. Coll.*)

(1642.) **P. cristatus,** Nutt.

P. Erianthera, Pursh Fl. II., 737.
P. pubescens, Sol. Dawson, Bound. Rep. 368, in part.
P. attenuatus, Dawson, Bound. Rep. 368. Macoun's Cat., No. 1248.

Rising ground, Red River prairie, and near Wood Mountain on the open prairie, 49th parallel; also gravelly slopes along the Milk River. (*Dawson.*) Dry gravelly soil, frequent from Brandon southward and westward, on the open prairie. (*Macoun.*) On light sandy soil throughout the country south and west of Moose Mountain, and very common at Maple Creek north of the Cypress Hills. (*J. M. Macoun, C. P. R. Coll.*)

(1643.) **P. ovatus,** Dougl.

Along the southern boundary of British Columbia. (*Gray.*) Elk River Valley west side of Rocky Mountains, B.C. (*Dawson.*)

(1644.) **P. confertus,** Dougl.

Mountain pine woods, in dry sandy soils, on the Columbia River. (*Douglas.*) South Kootanie Pass, 49th parallel; Crow Nest Pass and on the Flathead River, and Elk River Valley, B.C. (*Dawson.*) Bow

River Pass on mountain slopes. (*Macoun.*) Fort Selkirk, Youcon River, Lat. 62° 45′. (*Schwatka.*)

Var. **cæruleo-purpureus,** Gray.

P. procerus, Dougl. Hook. Fl. II., 97.
P. Tolmiei, Hook. Fl. II., 98.

Plains of the Saskatchewan to the Rocky Mountains. (*Richardson & Drummond.*) Trader's Road, and at Wood Mountain, 49th parallel; Milk River Ridge and westward up the Old Man River within the Rocky Mountains. (*Dawson.*) Frequent on the grassy slopes of coulées and depressions in the prairie from Brandon westward to the Rocky Mountains and northward from Calgary by Edmonton, the Athabasca River and Peace River prairie to Lat. 56°; very abundant in northern British Columbia, and common on the Fraser and Thompson rivers. (*Macoun.*) Along Ilgacho Brook and on the Tsi-tsutl Mountains, B.C. (*Dawson.*)

(1645.) **P. humilis,** Nutt.

In the Rocky Mountains near the British boundary. (*Gray.*)

(1646.) **P. gracilis,** Nutt.

Red River and Saskatchewan. (*Richardson & Drummond.*) Frequent on dry hillsides throughout Manitoba and the western prairie region. (*Macoun.*) West of Moose Mountain Creek on dry soil, and plentiful north of Cypress Hills. (*J. M. Macoun, C. P. R. Coll.*) On the 49th parallel near Emerson, Man. (*Burgess.*)

(1647.) **P. pubescens,** Solander.

On dry, gravelly or sandy soil apparently confined to Ontario. Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Burnt lands in Huntley Township, Carleton Co., and at the Fourth Chute of the Bonnechère, Renfrew Co., Ont. (*Rev. J. K. McMorine.*) Abundant in the counties of Hastings and Northumberland, Ont. (*Macoun.*) Waterdown Road, Burlington Heights, Hamilton, Ont. (*Logie.*) Niagara River, Navy Island and Malden, Ont. (*Maclagan.*) Vicinity of London, and on Point Pelee, Lake Erie. (*Burgess.*) Port Colborne, entrance to Welland Canal, Ont. (*David F. Day.*) Strathroy, Ont. (*McGill Coll. Herb.*) Lake of the Woods. (*Dawson.*)

(1648.) **P. glaucus,** Graham.

Rocky Mountains between Lat. 52–56°. (*Drummond.*) Summit of the South Kootanie Pass, Lat. 49°, Rocky Mountains. (*Dawson.*) Fort Selkirk, Youcon River, Lat. 62° 45′. (*Schwatka.*) On the Lower Mackenzie River. (*McGill Coll. Herb.*)

(1649.) **P. deustus,** Dougl.

On dry soil, north to the borders of British Columbia. (*Gray.*)

(1650.) **P. venustus,** Dougl.

P. dasyphyllus, Gray. Dawson, Bound. Rep., 369.

South Kootanie Pass, Lat. 49° ; Crow Nest Pass and Wigwam River, Rocky Mountains. (*Dawson.*) On the higher slopes of the Rocky Mountains, Kicking Horse Pass. (*Macoun.*)

(1651.) **P. diffusus,** Dougl.

P. serrulatus, Menzies. Hook. Fl. II., 95.

North-west Coast. (*Menzies.*) Rocky banks, Coldwater River, B.C. (*Dawson.*) Wooded banks, Fraser River, near the coast. (*Cowley.*)

(1652.) **P. triphyllus,** Dougl.

On rocks from Oregon to British Columbia. (*Gray.*)

443. MIMULUS, Linn. (MONKEY-FLOWER.)

(1653.) **M. Lewisii,** Pursh.

M. roseus, Lindl. Hook. Fl. II., 100.

Shady and moist, or wet ground around springs. Observed growing in mossy places bordering streams, in the South Kootanie Pass to an altitude of 6,000 feet ; Michell Creek and Flathead River, Rocky Mountains. (*Dawson.*) Mountains north of the Smoky River, Lat. 55°. (*Drummond.*) Around a spring opposite Hudson's Hope, Rocky Mountain Cañon, Peace River, Lat. 56°. (*Macoun.*) Along mountain brooks, Cariboo, B.C. (*Cowley.*)

(1654.) **M. ringens,** Linn.

In ditches and brooks common from Cape Breton westward to the Saskatchewan. A variety with white flowers is abundant along ditches in the township of Seymour, about 5 miles north of Campbellford, Northumberland Co., Ont. (*Macoun.*)

(1655.) **M. Jamesii,** Torr. & Gray.

In water or wet places usually in springs. York Mills, near Toronto, Ont. (*R. M. Stark.*) On the borders of Grenadier Pond, near Toronto. (*Fowler.*)

(1656.) **M. luteus,** Linn.

M. guttatus, DC. Hook. Fl. II., 99.
M. Scouleri, Hook. Fl. II., 100.

A most variable and polymorphous species, ranging from a few inches to over three feet in height. The coast and mountain forms are usually quite small, while the Cypress Hills specimens are very tall and stout. In springs amongst the Cypress Hills. (*Macoun.*) Border of a stream at the West Butte ; also observed near the Second Branch of Milk River growing in the water of a spring; and summit of South Kootanie Pass, 49th parallel ; also, Queen Charlotte Islands, B.C. (*Dawson.*) Abundant along brooks in the valley of Fraser River, B.C. (*Hill.*) Very abundant around Victoria, Vancouver Island and very variable. Gathered by all collectors. Moist woods along the whole North-west Coast from Lat. 49° to Alaska. (*Hooker.*) Cape St. Elias, Ounalashka, Kodiak and Sitka. (*Rothr. Alask.*)

Var. **alpinus,** Gray.

From Alaska southward through the mountains to the 49th parallel. (*Gray.*) This form is probably included with our specimens referred to the species.

(1657.) **M. alsinoides,** Benth.

Bottom of Cañon, below Elk River bridge, Rocky Mountains. (*Dawson*) Vicinity of Victoria, Vancouver Island. (*Macoun & Hill.*)

(1658.) **M. moschatus,** Dougl. Musk Plant.

Growing in swampy land near Alma, Albert Co., N.B. (*Brittain.*) Ditches and brooks in the vicinity of Victoria, Vancouver Island. (*Macoun & Fletcher.*) Certainly a garden *escape* in New Brunswick. (*Macoun.*)

444. GRATIOLA, Linn. (HEDGE HYSSOP.)

(1659.) **G. ebracteata,** Benth.

In ditches and wet places around Victoria, Vancouver Island. (*Macoun.*)

(1660.) **G. Virginiana,** Linn.

Belœil Mountain and Montreal. (*Maclagan.*) At Beauport near Quebec. (*Thomas.*) In mud at Gould's Wharf, Horton, Renfrew Co., Ont. (*Rev. J. K. McMorine.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*)

Muddy border of a small brook, 3 miles west of Belleville, Ont. (*Macoun.*) St. Catharines, Ont. (*Maclagan.*) Hamilton, Ont. (*Burgess.*) Vicinity of Toronto. (*Fowler.*) Red River flats near Emerson, Man. (*Dawson.*) Abundant in exsiccated places near Fort Walsh, Cypress Hills; also in a muddy flat, south of Battleford, N. W. T. (*Macoun.*) Lake Winnipeg. (*Richardson.*) Plains of the Red River, Man. (*Douglas.*) Northward to British Columbia. (*Gray.*)

(1661.) **C. aurea,** Muhl.

G. officinalis, Michx. Fl. I., 6.

Muddy bank of Richelieu River, and at St. John's, Q. (*Nat. Hist. Coll., Montreal.*) On the muddy beach of the Ottawa River, at Mansfield, Q. (*Rev. J. K. McMorine.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) On dried mud, or rocky flats immediately west of the railway bridge, and at the paper mill, a mile above the bridge, close to the city of Belleville, Ont. (*Macoun.*) Very common around Lake Joseph, Muskoka Co., Ont. (*Burgess.*)

445. ILYSANTHES, Raf. (FALSE PIMPERNEL.)

(1662.) **I. gratioloides,** Benth.

Gratiola anagallidea, Michx. Fl. I., 6.
Lindernia pyxidaria, Pursh Fl. II., 419.

In muddy places along the banks of rivers and on exsiccated flats which are flooded in spring. Frequent in wet sandy or gravelly places subject to inundation, N.B. (*Fowler's Cat.*) Frequent throughout Quebec and Ontario in its usual habitats.

446. LIMOSELLA, Linn. (MUD-WORT.)

(1663.) **L. aquatica,** Linn.

York Factory, Hudson Bay. (*Drummond.*) In a muddy brook near the Hand Hills, Long. 112°; ten miles north of Edmonton in brackish mud; also on mud flats on the lower Peace River and at Fort Chipweyan, Lake Athabasca. (*Macoun.*) Short Creek, near Wood Mountain, 49th parallel. (*Burgess.*)

Var. **tenuifolia,** Hoffm.

Brackish river banks and shores. Near St. Stephen, Charlotte Co., N.B. (*Vroom.*)

447. DIGITALIS, Linn. (FOX GLOVE.)

(1664.) **D. purpurea,** Linn.

Apparently *naturalized* in a meadow about three miles from South Sydney on the Louisburg Road, Cape Breton. (*Macoun.*) Between Port Hastings and New Westminster, B.C. (*Fletcher.*)

448. SYNTHYRIS, Benth.

(1665.) **S. rubra,** Benth.

Gymnandra rubra, Dougl. Hook. Fl. II., 103.

On dry gravelly soil along the southern trail, near Fort Walsh, Cypress Hills, N.W.T. (*Macoun.*) Ten miles west of Fort Walsh. (*Dawson.*) Along the Flathead River, B.C. [?] (*Douglas.*)

449. VERONICA, Linn. (SPEEDWELL. BROOKLIME.)

(1666.) **V. Virginica,** Linn. Culver's Physic.

Moist woods and banks from Canada and Winnipeg valley southward. (*Gray.*) Islands in Detroit River. (*Maclagan.*)

(1667.) **V. Anagallis,** Linn. Water Speedwell.

In brooks and muddy places and in springs, rather common. In ditches near Pictou, N.S. (*McKay.*) Lachine Rapids, near Montreal. 1821. (*Holmes.*) Shore of Lake Abbitibee, northern Quebec. (*Richardson.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Wet places, common at Prescott, Ont. (*Billings.*) Ramsay, Carleton Co., Ont. (*Rev. J. K. McMorine.*) Vicinity of Hamilton, Ont. (*Logie.*) Neighborhood of London, Ont. (*Burgess.*) Vicinity of Toronto. (*Fowler.*) Ditches and boggy places around Belleville, Ont.; ditches at Owen Sound and along the north shore of Lake Superior; also in a muddy brook east of the Hand Hills, and north of Cypress Hills, N.W.T. (*Macoun.*) Throughout Canada to the Rocky Mountains. (*Drummond.*) Northwest coast of British Columbia. (*Douglas.*)

(1668.) **V. Americana,** Schwein. American Brooklime.

V. Beccabunga, Hook. Fl. II., 101.
V. Anagallis, Bong. Rothr. Alask., 452.

Abundant in brooks, springs and ditches from Anticosti, Nova Scotia, and New Brunswick westward across the continent to the Pacific

Coast. It extends (as far as known) northward to Lake Athabasca on the east of the Rocky Mountains and on the west to Sitka and Ounalashka.

(1669.) **V. scutellata,** Linn. Marsh Speedwell.

Very common in ditches and swamps having the same range westerly as the preceding, not recorded from any point north of Lake Athabasca. (*Macoun.*) Canada to English River, Lat. 56°. (*Richardson.*) Abundant in British Columbia. (*Fletcher.*)

Var. **pubescens,** Macoun.

This variety is very common in spring brooks around Belleville, Ont. It is the only form found there and differs from the type only in its pubescent stem and leaves. The hairs cover every part except the flower, and are quite hard, making the plant almost hirsute.

(1670.) **V. Chamædrys,** Linn. Germander Speedwell.

Sparingly *naturalized* in a few localities. Windsor, N.S. (*How.*) Halifax, N.S. (*Lawson.*) Not uncommon on the heights of Point Levis, Q. (*Macoun & Thomas.*) Vicinity of Quebec. (*Maclagan.*)

(1671.) **V. officinalis,** Linn.

Abundant in open grassy places on Point Pleasant near Halifax, and across the harbor on the hills above Dartmouth, N.S. (*Macoun & McGill Coll. Herb.*) Around Pictou and Halifax, N.S. (*McKay.*) Dry fields or hills, Norton, and near Fredericton, N,B. (*Fowler's Cat.*) Roadsides near Campbellton, N.B. (*Chalmers.*) Roadsides near Ottawa. (*Fletcher Fl. Ott.*) In pasture fields near St. Thomas, Ont. (*Macoun.*) Common around Hamilton, Ont. (*Buchan.*) Vicinity of London, Ont. (*Burgess.*) In the neighborhood of Toronto. (*Dr. Cowdry.*) Port Colborne, Ont. (*McGill Coll. Herb.*)

(1672.) **V. Kamtschatica,** Linn, f.

V. aphylla, var. *grandiflora*, Benth. in DC. Prodr. X., 476.

Kiska, one of the Aleutian Islands. (*Dall. in Gray.*)

(1673.) **V. Stellerl,** Pall.

Ounalashka and other Aleutian Islands. (*Gray.*)

(1674.) **V. alpina,** Linn.

V. nutans, Bong. Hook. Fl. II., 101.
V. alpina, var. *Wormskioldii*, Hook. Fl. II., 101.

Coast of Labrador. (*Gray.*) Abundant on the summits of Mount Albert and Table Top, two of the Shickshock mountains, Gaspé.

(*Macoun & Porter.*) Rocky Mountains, South Kootanie Pass, 6,500 feet altitude, 49th parallel; Michell Creek, Crow Nest Pass, western summit of North Kootanie Pass, and head waters of High-wood River, Rocky Mountains; also near Tanyabunkat Lake, B.C. (*Dawson.*) Alpine prairies of the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Cold damp meadows near McLeod's Lake, Lat. 55°, B.C.; also on the slopes of the Rocky Mountains, Kicking Horse Pass. (*Macoun.*) Bartlett Bay, Alaska. (*Meehan.*) Sitka and Ounalashka. (*Rothr. Alask.*) Eastern specimens are much more hairy than those from the Rocky Mountains. The latter seem to represent the *V. nutans* of Bongard.

(1675.) **V. serpyllifolia,** Linn.

Open grassy grounds, roadsides, pastures, and borders of ditches; appearing generally like an introduced plant, but extending in such situations from the Atlantic to the Pacific, and far to the north passing the Arctic Circle. On the west coast it passes north to the Aleutian Islands off the coast of Alaska.

(1676.) **V. peregrina,** Linn. Neck-weed.

Common throughout the whole of Canada along the margins of rivers and wet or muddy places in cultivated fields, meadows or pastures. In the prairie region it is frequent on exsiccated ground and brook sides. On the margins of the great rivers it passes far to the north and almost reaches the Arctic Sea on the Mackenzie.

(1677.) **V. arvensis,** Linn. Corn Speedwell.

Extensively *naturalized* in cultivated and waste ground. On the grassy slopes of Cape Forteau, at Yarmouth, and on Cape Blomidon, at the "Look-out," N.S. (*Macoun.*) St. Andrews, N.B. (*Vroom.*) Chamcook Mountain, N.B. (*Hay.*) Portage, King's Co., and Hillsborough, N.B. (*Brittain.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Ramsay, Carleton Co., Ont. (*Rev. J. K. McMorine.*) Miriwin's Woods, near Prescott, Ont., rare. (*Billings.*) Vicinity of Belleville at the gravel pit, and near the paper mill; also at Pine Grove, Brighton, and near the village of Castleton, Northumberland Co.; also around Owen Sound on waste places. (*Macoun.*) Kingston and Port Robinson, Ont. (*Maclagan.*) Vicinity of Hamilton, Ont. (*Buchan.*) Neighborhood of London, Ont. (*Burgess.*) Vicinity of Toronto. (*Fowler.*)

(1678.) **V. agrestis,** Linn.

Naturalized in Nova Scotia and New Brunswick. Windsor, N.S. (*How.*) Introduced into a garden a few years ago at Richibucto, N.B.,

and now spreading beyond, also at Fredericton, N.B. (*Fowler's Cat.*) Vicinity of St. Andrews, N. B. (*Vroom.*) Ballast wharf, St. John, N.B. (*Hay.*) Spreading from a garden in Picton, Ont. (*Macoun.*) Introduced with grass-seed at Ottawa. (*Fletcher.*)

(1679.) **V. Buxbaumii,** Tenore.

On ballast heaps, North Sydney, Cape Breton, and also at Pictou, N.S. (*Macoun.*) Neighborhood of Kingston and London, Ont. (*Burgess.*) Very sparingly *naturalized.*

450. GERARDIA, Linn. (GERARDIA.)

(1680.) **G. pedicularia,** Linn.

Dasystoma pedicularia, Benth. in DC. Prodr. X., 520.

Waterdown Road and other places near Hamilton, Ont. (*Logie.*) Niagara River. (*Maclagan.*) Sandy woods near Clifton, Niagara Falls, and dry copses on the banks of the Humber near Toronto. (*Macoun.*) On sandy soil Burford Plains, Brant Co., Ont. (*Tate.*)

(1681.) **G. flava,** Linn.

Dasystoma pubescens, Benth. in DC. Prodr. X., 521.

Oaklands, Ont. (*Miss Kate Crooks.*) Open woods, Canada. (*Gray.*)

(1682.) **G. quercifolia,** Pursh.

Dasytoma quercifolia, Benth in DC. Prodr. X., 521.
G. integrifolia, Gray. Logie in List of Hamilton Plants.

Dry sandy woods St. James' cemetery, Toronto. (*Macoun.*) Waterdown Road and Prince's Island near Hamilton, Ont. (*Logie.*) Niagara River, Cayuga, and Malden, Ont. (*Maclagan.*) Wesleyan cemetery and along the Great Western Railway, at London, Ont. (*Saunders & Burgess.*)

(1683.) **G. aspera,** Dougl.

G. longifolia, Nutt. Hook. Fl. II., 104.

Plains and prairies from the Saskatchewan to Dakota. (*Gray.*) Pastures of the Red River, Man. (*Douglas.*)

(1684.) **G. purpurea,** Linn.

Low and moist grounds, Canada. (*Gray.*) Niagara Falls. (*Burgess.*) Windmill Point, Lake Erie. (*David F. Day.*)

Var. **paupercula,** Gray.

G. purpurea, Sims. Hook. Fl. II., 104.

Lower Canada to the Saskatchewan. (*Gray.*) Between the Recollet and St. Antoine suburbs, Montreal. 1821. (*Holmes.*) Nicolet, and Montreal, Q. (*Maclagan.*) Beauharnois Co., Q. (*McGill Coll. Herb.*) On submerged or floating logs, St. Louis dam and other places near Ottawa. (*Fletcher Fl. Ott.*) On wet logs at Carleton Place and Kingston Mills; also, banks of Mississippi River, Ont. (*Rev. J. K. McMorine.*) On logs in the Bay of Quinte; in a wet field at Weller's Bay, Lake Ontario; border of a small brook, Wallbridge's Mill, Hastings Co.; also, marsh at Chicken Bay, Lake Huron. (*Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*) Toronto Island and at the Humber west of the city. (*Fowler.*) Parry Sound, Ont. (*Burgess.*) Lake of the Woods. (*Dawson.*) Lake Huron to the Saskatchewan. (*Drummond.*)

(1685.) **C. tenuifolia,** Vahl.

G. erecta, Walt. Michx. Fl. II., 20.

Low or dry ground, Canada to Minnesota. (*Gray.*) Nicolet, Q. (*Maclagan.*) On dry sandy banks of the Humber near Toronto. (*Macoun.*) Prince's Island near Hamilton, Ont. (*Logie.*) Niagara and Malden, Ont. (*Maclagan.*) Lonely Lake, 100 miles north-east of the Lake of the Woods. (*R. Bell.*)

451. CASTILLEIA, Linn. f. (PAINTED-CUP.)

(1686.) **C. coccinea,** Spreng. Painted-cup.

Bartsia coccinea, Pursh Fl. II., 429.

Always on warm sandy soil to the eastward, but often on low damp soil in Manitoba. Vicinity of Belleville, and on the Oak Hills, Sidney, Hastings Co.; abundant on the oak and pine lands, Rice Lake Plains. (*Macoun.*) On the mountain at Hamilton, Ont. (*Logie.*) Don and Humber valleys near Toronto. (*William Titler.*) Niagara River and Malden, Ont. (*Maclagan.*) Whirlpool Woods, Niagara River. (*David F. Day.*) Great Western Railway east of London. (*Saunders & Burgess.*) High Park, Toronto. (*Fowler.*) Shore of Red Bay, Lake Huron; along the north shore of Lake Superior, and up Current River, Thunder Bay; very common in some parts of Manitoba, especially around Brandon. (*Macoun.*) Along Rainy River and Lake of the Woods, also rising ground east of Red River on the 49th parallel. (*Dawson.*) On the Souris Plain south of Moose Mountain. (*J. M.*

Macoun, C. P. R. Coll.) A yellow bracted form is common in Manitoba, but it can scarcely he called a variety.

(1687.) **C. parviflora,** Bong.

C. hispida, Benth. Hook. Fl. II., 105.

Common on dry grounds, North-west Coast. (*Scouler.*) Abundant on gravelly hillsides and grassy places, Victoria, Vancouver Island. (*Macoun, Fletcher & Cowley.*) Chilcoten River west of the Fraser River, B.C., and Queen Charlotte Islands. (*Dawson.*) Bartlett Bay, Alaska. (*Meehan.*) Common from California to Alaska. (*Gray.*)

(1688.) **C. miniata,** Dougl.

C. pallida, var. *Unalaschensis,* Cham. & Schlecht., in part.
C. pallida, var. *miniata,* Gray. Macoun's Cat., No. 1283.

Abundant on damp grassy slopes throughout the whole prairie region and northward to the Peace River. (*Macoun.*) Crow Nest Pass, and eastern summit of the North Kootanie Pass, apparently common, on the Rocky Mountains; also, Chilcoten River, B. C. (*Dawson.*) Spillmacheen District, B.C. (*Hill & Cowley.*) Abundant along the Thompson, Blackwater and Nachaco rivers, B.C. (*Macoun.*) Northward to Alaska. (*Gray.*)

(1689.) **C. pallida,** Kunth.

Bartsia pallida, Linn. Pursh Fl. II., 429.

Sub-arctic, North-west America, both coast and islands. (*Gray.*) Sitka, Kotzebue Sound, Chamisso Island, and Arctic Coast; also Fort Youcon. (*Rothr. Alask.*) Pyramid Harbor, Alaska. (*Meehan.*) Pastures of the Rocky Mountains; and throughout Canada to Hudson Bay and Fort Franklin on the Mackenzie River. (*Drummond & Richardson.*) North-west coast to Behring Straits. (*Chamisso.*)

Var. **septentrionalis,** Gray.

C. septentrionalis, Lindl. Hook. Fl. II., 105.
C. pallida, var. *Unalaschensis,* Cham. & Schlecht., in part.
Bartsia acuminata, Pursh Fl. II., 429.

Exposed coasts and mountain tops. Along the rivers of Anticosti, and on the top of Mount Albert, Shickshock Mountains, Gaspé. (*Macoun.*) Hills of the Restigouche River, N.B. (*Fowler's Cat.*) Collected in Madawaska, N.B. (*Hay.*) Temiscouta, Q. (*Maclagan.*) On Michipicotin Island and at the Hudson Bay post, entrance to Nipigon River, Lake Superior; also along the Red Deer River near the Hand Hills and on the Bow River at Morley. (*Macoun.*) Along the

Bow River at Calgary. (*J. M. Macoun.*) Foot-hills of the Rocky Mountains on the 49th parallel. (*Dawson.*) Rocky Mountains. (*Drummond.*) Arctic Sea coast. (*Richardson.*) Metapedia, N. B. (*Fletcher.*)

(1690.) **C. sessiliflora,** Pursh.

Abundant on dry ridges along the Assiniboine River, both above and below Brandon; also on Brandon Hills. (*Macoun.*) First Crossing of Souris River, on dry hillsides, 49th parallel. (*Dawson.*) Common on both sandy and gravelly soil south of Moose Mountain. (*J. M. Macoun, C. P. R. Coll.*)

452. ORTHOCARPUS, Nutt.

(1691.) **O. attenuatus,** Gray.

Quite common on gravelly and grassy places around Victoria, Vancouver Island. (*Macoun & Dawson.*)

(1692.) **O. tenuifolius,** Benth.

Bartsia tenuifolia, Pursh Fl. II., 429.

Dry ground, Montana to British Columbia. (*Gray.*) On dry slopes, Osoyoos Lake, B.C. (*Dawson.*)

(1693.) **O. bracteosus,** Benth.

Dry ground, British Columbia. (*Gray.*) On Cedar Hill, eight miles from Victoria, Vancouver Island, and in several other places around the city. (*Macoun & Fletcher.*)

(1694.) **O. luteus,** Nutt.

O. strictus, Benth. Hook. Fl. II., 104.

Plains of the Saskatchewan and prairies in the Rocky Mountains. (*Drummond.*) Abundant on the dry open prairie from Winnipeg to the Rocky Mountains and northward to Peace River. (*Macoun.*) In great profusion on the Souris Plain, south of Moose Mountain. (*J. M. Macoun, C. P. R. Coll.*) Along the 49th parallel at Emerson, Man. (*Burgess.*) North Fork of Old Man River, Rocky Mountains; also along the Chilcoten River, B.C. (*Dawson.*)

(1695.) **O. pusillus,** Benth.

On dry hillsides and gravelly soil generally, near Victoria, Vancouver Island. (*Macoun & Dawson.*)

453. EUPHRASIA, Linn. (EYEBRIGHT.)

(1696.) **E. officinalis,** Linn.

Abundant along the coasts of the Gulf of St. Lawrence. Labrador, Anticosti, Cape Breton, Nova Scotia, New Brunswick and up the St. Lawrence on both sides to Quebec; also along the north shore of Lake Superior and in the Rocky Mountains on Bow River Pass. (*Macoun.*) Canada and Newfoundland to Lat. 64°. (*Richardson.*) Aleutian Islands and far northward. (*Dr. Gray.*) Bartlett Bay, Alaska. (*Meehan.*)

Var. **Tartarica,** Benth.

E. latifolia, Pursh, Fl. II., 430.
E. officinalis, var. β. Hook. Fl. II., 106.

This variety has pale purple flowers, while the typical form has white flowers with purple veins. Labrador. (*Pursh.*) Cape Bold and Little Rocher, N.B. (*Brittain.*) Prairies of the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Dr. Gray says that the North American plant is chiefly this variety.

454. BARTSIA, Linn.

(1697.) **B. alpina,** Linn.

Labrador. (*Kohlmeister.*) Ungava Bay, Labrador; along the Mackenzie River near the sea. (*McGill Coll. Herb.*) Fiske Fiord, Lat. 64°. (*Dr. Kane.*)

(1698.) **B. Odontites,** Huds.

Naturalized in the Atlantic provinces. Common in the vicinity, and in the streets of Pictou and along the River St. John, N.S. (*McKay.*) Near Windsor, N. S. (*How.*) At Whycocomagh, Cape Breton. (*Lindsay.*) In a field at Truemansville, N.S. (*Trueman.*) Lancaster Beach, and abundant on an island, at the Falls, mouth of St. John River, N.B. (*Hay.*)

455. PEDICULARIS, Linn. (LOUSEWORT.)

(1699.) **P. Menziesii,** Benth.

North-west Coast. (*Menzies.*) Dr. Gray remarks of this species—"Not clearly identified."

(1700.) **P. verticillata,** Linn.

Sitka and the islands generally; also Kotzebue Sound. (*Rothr. Alask.*) Alaska to Arctic Sea and Aleutian Islands. (*Dr. Gray.*)

(1701.) **P. Chamissonis,** Stev.

Ounalashka. (*Rothr. Alask.*) Aleutian Islands. (*Dr. Gray.*)

(1702.) **P. Grœnlandica,** Retz.

P. surrecta, Benth. Hook. Fl. II., 107.

Labrador. (*Morrison.*) In swamps between Fort Pitt and Edmonton north of the Saskatchewan; also in peat bogs on the portage between Little Slave Lake and Peace River. Marsh at the crossing of Red Deer River below the Hand Hills. (*Macoun.*) Alpine marshes of the Rocky Mountains; York Factory, Hudson Bay. (*Drummond.*) Bogs in the Bow River Valley between Calgary and Morley. (*J. M. Macoun, C. P. R. Coll.*) Foot-hills between North and Middle Fork of Old Man River, Rocky Mountains. (*Dawson.*) West to British Columbia. (*Dr. Gray.*)

(1703.) **P. racemosa,** Dougl.

Sub-alpine regions of British Columbia. (*Dr. Gray.*) Flathead Valley; also along Osoyoos Lake, B.C. (*Dawson.*) On the upper slopes of the Rocky Mountains in the Kicking Horse Pass. (*Macoun.*)

(1704.) **P. Lapponica,** Linn.

Labrador. (*Kolmeister.*) Barren grounds between Lat. 64° and the Arctic Sea. (*Richardson.*) Disco Island, and on both sides of Baffin's Bay. (*Capt. Markham.*) Near Fort Confidence, Lat. 67°; also between the Coppermine River and Cape Turn-again, Lat, 67° 54′, Long. 115° 31′. (*Dease.*)

(1705.) **P. pedicellata,** Bunge.

P. subnuda, Benth. Rothr. Alask, 452.

Sitka. (*Rothr. Alask.*) Norfolk Sound. (*Eschscholtz.*) Also in Labrador, according to Bunge. (*Dr. Gray.*)

(1706.) **P. euphrasioides,** Stephan.

Labrador. (*Kolmeister.*) Moist mossy places north of the Saskatchewan to the Arctic seashore. (*Richardson.*) Woods of *Pinus Banksiana* in the Rocky Mountains. (*Drummond.*) Along the North Saskatchewan between Fort Pitt and Edmonton. (*Macoun.*) Il-ga-chuz Mountains, B.C. (*Dawson.*) Norton and Kotzebue Sound, and islands of

Chamisso and Kodiak. (*Rothr. Alask.*) Hudson Strait. (*McGill Coll. Herb.*) Near Fort Confidence, Lat. 67°, Long. 119°. (*Dease.*) Sussex Lake, Great Fish River. (*Dr. Rae.*)

(1707.) **P. palustris,** Linn. Var. **Wiassoviana,** Bunge.

P. Wlassoriana, Stev. Hook. Fl. II., 107.
P. palustris, Linn. Hook. Fl. II.,107.

Newfoundland. (*Dr. Morrison.*) In a marsh at the head of Ellis Bay, Anticosti. (*Macoun.*) Cacouna, River St. Lawrence. (*Burgess.*) Along the St. Lawrence at Ste. Anne des Monts. (*Allen.*) Vicinity of York Factory, Hudson Bay. (*R. Bell.*) From Hudson Bay to the Saskatchewan Plains, and at Carlton. (*Richardson & Drummond.*) On the Mackenzie River. (*McGill Coll. Herb.*) Kotzebue Sound. (*Capt. Beechy.*) Bartlett Bay, Alaska. (*Mechan.*) Arctic America, at Bay of Good Hope. (*Rothr. Alask.*)

(1708.) **P. Canadensis,** Linn. Canada Lousewort.

P. gladiata, Michx. Fl. II., 18.

Moist woodlands and gravelly banks. Vicinity of Halifax and on hillsides at Truro, N.S. (*Macoun.*) Grand Falls of the St. John, N.B. (*Moser.*) Abundant throughout western Quebec and Ontario, and extending to Manitoba House, Lake Manitoba. (*Macoun.*) Rising ground east of Red River Prairie, 49th parallel. (*Dawson.*) At the Grand Rapid of the Saskatchewan near Lake Winnipeg. (*Douglas.*)

(1709.) **P. Furbishiæ,** Watson.

Upper St. John, N.B. (*Hay.*) Andover, N.B. (*Wetmore.*) Banks of the Aroostook within New Brunswick. (*Vroom.*) This is a new species lately discovered in Maine.

(1710.) **P. lanceolata,** Michx.

P. resupinata, (?) Willd. Pursh, Fl. II., 425.
P. pallida, Pursh, Fl. II., 424.

Grassy swamps eastward and rich prairie in the west. Coldstream Flats, Ont. (*McGill Coll. Herb.*) Cayuga and Malden, Ont. (*Maclagan.*) Niagara Falls. (*Burgess.*) Rich damp prairie, White Horse Plains, and low rich prairie near Brandon, Man. (*Macoun.*)

(1711.) **P. bracteosa,** Benth.

P. recutita, Pursh, Fl. II., 425, probably.

Shady alpine woods of the Rocky Mountains. (*Drummond.*) South Fork of Belly River, in a dense wood ; lower slopes of South Kootanie

Pass, 49th parallel; western summit of North Kootanie Pass; also Crow Nest Pass. (*Dawson.*) On grassy slopes, Bow River Pass, Rocky Mountains; also Câche Creek Mountain, B.C. (*Macoun.*) Cariboo Mountains, B.C. (*Cowley.*)

(1712.) **P. Sudetica,** Willd.

Bear Lake to the Arctic sea-coast. (*Richardson.*) Cape Lisburne, Kotzebue Sound, Arctic coast and island of St. Lawrence. (*Rothr. Alask.*) St. Paul and St. Lawrence islands, &c. (*Dr. Gray.*) Melville Islands. (*Capt. Markham*) Near Fort Confidence, Lat. 67°, Long. 119°; also westward of Mackenzie River, Lat. 71°, Long. 126°. (*Dease.*) Islands north of Lancaster Sound and Greenland. (*Hook. Arct. Pl.*)

(1713.) **P. Langsdorffii,** Fisch.

Aleutian and more northern islands, Kotzebue Sound, &c. (*Dr. Gray.*) Behring's Straits. (*Menzies.*) Melville Island. (*Sir E. Parry.*) Greenland. (*Hook. Arct. Pl.*)

Var. **lanata,** Gray.

P. Kanei, Durand in Jour. Acad. Philad. N. Ser. II., 195.
P. arctica, R. Br. App. Parry, 280.
P. Langsdorffii, Macoun's Cat., No. 1300.

Same range as the type on the north-west coast; also Arctic coast and islands, and high northern Rocky Mountains. (*Dr. Gray.*) Summits of Rocky Mountains, abundant. (*Drummond.*) On the summit of Mount Selwyn, Peace River Pass. Lat. 56°. (*Macoun.*) Il-ga-chuz Mountains, B.C. (*Dawson.*) Cariboo Mountains, B.C. (*Cowley.*) Bear Lake River to the Arctic Sea. (*Richardson.*) Islands of St. George and St. Lawrence, Kotzebue Sound and Arctic coast. (*Rothr. Alask.*) On both sides of Baffin's Bay. (*Capt. Markham.*) Ransselaer Harbor, Lat. 79°; also at various places on Smith's Sound. (*Dr. Kane.*) Lake Beechy, Back's Great Fish River. (*McGill Coll. Herb.*)

(1714.) **P. hirsuta,** Linn.

Arctic sea-coast, and Arctic islands, frequent. (*Capt. Parry.*) On both sides of Baffin's Bay, Melville Island, Navy Board Inlet, and Elwyn Inlet. (*Capt. Markham.*) Back's Great Fish River. (*Capt. Back.*) West of the Mackenzie River, Lat. 71°, Long. 154°. (*Dease.*) East coast of Greenland and Smith's Sound. *Hook. Arct. Pl.*)

(1715.) **P. flammea,** Linn.

Labrador to the northern Rocky Mountains and northward. (*Dr. Gray.*) Labrador. (*Kolmeister.*) Arctic America. (*Richardson.*)

Summits of the Rocky Mountains. (*Drummond.*) Fort Selkirk, Youcon River, Lat. 62° 45'. (*Schwatka.*) Greenland. (*Hook. Arct. Pl.*)

(1716.) **P. versicolor,** Wahl.

Islands of North-west America. (*Hooker.*) Island of St. Lawrence. (*Chamisso.*) Kotzebue Sound and the Island of St. Lawrence. (*Rothr. Alask.*)

(1717.) **P. capitata,** Adams.

P. Nelsonii, R. Br. in Richards. Frankl. App., 743.
P. verticillata, Pursh, Fl. II., 426, not of Linn.

Arctic sea-coast, Kotzebue Sound, Ounalashka, and more northern islands. (*Dr. Gray.*) Arctic seashore and islands. (*Richardson.*) Behring's Straits. (*Langsdorff.*) On both sides of Baffin's Bay and Port Kennedy. (*Capt. Markham.*) Westward of Mackenzie River, Lat. 71°, Long. 154°; also between the Coppermine River and Cape Turn-again, Lat. 67° 54', Long. 115° 31°. (*Dease.*) Near the mouth of Back's Great Fish River. (*McGill Coll. Herb.*)

456. RHINANTHUS, Linn. (YELLOW-RATTLE.)

(1718.) **R. Crista-galli,** Linn.

R. minor, Ehrh. Beitr. VI., 144.

Newfoundland. (*Morrison.*) Abundant and very common in places, on Bonne Espérance, and found all along the Labrador coast. With *Euphrasia officinalis,* in low, moist but not marshy places. (*W. E. Stearns.*) Very common along rivers and grassy places on the west side of Anticosti, also abundant at Louisburg, North Sydney and Baddack, Cape Breton; at Pictou, Straits of Canso, and Yarmouth, N.S. Certainly indigenous at all those points. (*Macoun.*) Halifax, N.S. *Introduced* (?) (*Lawson & Sommers.*) Pictou, N.S. (*McKay.*) Oyster Ponds, Guysboro' Co., N.S. (*Ball.*) Common near St. John, north of Miramichi on Bathurst Road; also Blacklands, Restigouche Co., N.B. (*Fowler's Cat.*) Abundant at Campbellton, N.B., along the Bay of Chaleur and up the Gaspé coast and on the mountains to Petit Métis. (*Macoun.*) St. Roch des Aulnais, Q. (*Maclagan.*) Wet meadows in many places, along the St. Lawrence below Quebec. (*Thomas.*) Low meadow at the Pic River, Lake Superior, also in the Bow River Pass and on Peace River at St. John's, and Hudson's Hope, Lat. 56°. (*Macoun.*) From the Saskatchewan to the shores of Slave Lake and to Fort Franklin. (*Richardson.*) Prairies of the Rocky Mountains. (*Drum-*

mond.) Foot Hills between the North and Middle Fork of Old Man River; also Foot Hills of Rocky Mountains, and western side of the water-shed, South Kootanie Pass; Queen Charlotte Islands. (*Dawson.*) Ounalashka. (*Rothr. Alask.*) Greenland, south of the Arctic Circle. (*Hook. Arct. Pl.*)

Var. **major,** Ehrh. (?)

A form which is extremely like this has been collected at Yarmouth, N.S., near the railway station by the writer, and at Metapedia, N.B., by Mr. Fletcher, of the Parliamentary Library. The specimens in question have large yellow flowers, with yellowish bracts, and long narrow leaves; they are taller and more branching than the usual form of *R. Cristi-galli.* This may be the introduced plant found at Halifax.

457. MELAMPYRUM, Linn. (COW-WHEAT.)

(1719.) **M. Americanum,** Michx.

M. sylvaticum, Hook. Fl. II., 106.
M. pratense, var. *Americanum,* Benth. in DC. Prodr. X., 584.
M. lineare, Lam. Pursh, Fl. II., 430.

Swamps, grassy thickets, and open sandy woods. Anticosti, Nova Scotia, New Brunswick, Quebec, Ontario and westward to the Coast Range, B.C. The British Columbian specimens have broad nearly hastate leaves, but otherwise the specimens differ very little from those of Anticosti. It is probable that the form growing in peat bogs is distinct from that found in sandy woods, but our present specimens are insufficient to determine that question.

LXXI. OROBANCHACEÆ Broom-rape Family.

458. APHYLLON, Mitchell. (CANCER-ROOT.)

(1720.) **A. uniflorum,** Gray.

Orobanche uniflora, Linn. Pursh Fl. II., 431.
O. biflora, Nutt. Hook. Fl. II., 93.
Anoplanthus uniflorus, Endl. DC. Prodr. XI., 41.

Parasitic on the roots of various plants. Chiefly found on dry sandy soils in open woods. Newfoundland. (*Miss Brenton.*) Nashwaakis, N.B. (*Prof. Fowler.*) Petitcodiac, N.B. (*Brittain.*) Near Kingston Mills, Ont. (*Maclagan.*) On the Rice Lake Plains, near

Castleton; also at Alnwick, Northumberland Co., Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Whirlpool Woods, Niagara Falls. (*David F. Day.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Port Stanley, Lake Erie. (*Burgess.*) North shore of Lake Superior. (*Agassiz.*) Parasitic on *Artemisia* roots, Tobacco Plains, Kootanie Valley, B.C. (*Dawson.*) Abundant around Victoria, Vancouver Island. (*Macoun & Hill.*)

(1721.) **A. fasciculatum,** Gray.

Orobanche fasciculata, Nutt. Hook. Fl. II., 93.
Anoplanthus fasciculatus, Walp. DC. Prodr. XI., 41.

Parasitic on the roots of *Artemisia* on sand hills and prairies at Spy Hill and Old Wives Lakes, Assinniboia. (*Macoun.*) On sand along Moose Mountain Creek, Assinniboia. (*J. M. Macoun, C. P. R. Coll.*) Wood End on the 49th parallel; and along Belly River near Fort McLeod; also in the Nicola Valley, B.C. (*Dawson.*) Vicinity of Spence's Bridge, B.C. (*Hill.*)

(1722.) **A. comosum,** Gray.

Orobanche comosa, Hook. Fl. II., 92.

Parasitic on roots of *Compositæ*. Growing on roots of *Grindelia* along the coast at Victoria, Vancouver Island. (*Fletcher.*)

(1723.) **A. Ludovicianum,** Gray.

Orobanche Ludoviciana, Nutt. Hook. Fl. II., 92.
Phelipœa Ludoviciana, Walp. Macoun's Cat., No. 1228.

On arid clay banks, especially along rivers. Plains of the Saskatchewan, rare. (*Drummond.*) On hills west of the Qu'Appelle, banks of Maple Creek, also Gull Lake and banks of creeks at the Hand Hills. (*Macoun.*) Near Irvine Station on the C. P. R., Assinniboia. (*J. M. Macoun.*) On dry hills, Vancouver Island. (*Cowley.*) Along Okanagon Lake, B.C. (*Dawson.*) New Caledonia. (*Douglas.*)

(1724.) **A. pinetorum,** Gray.

Orobanche pinetorum, Geyer in Hook. Kew Journ. Bot. III., 297.

Oregon to British Columbia, on the roots of Fir-trees. (*Gray.*)

459. CONOPHOLIS, Wallr. (SQUAW-ROOT.)

(1725.) **C. Americana,** Wallr.

Orobanche Americana, Linn. Pursh Fl. II., 431.

Rich woods under trees, especially oaks. Thicket near the G. T. R. gravel pit, Prescott, Ont. (*Billings.*) In rich woods, three miles in

rear of Picton, towards West Lake, Prince Edward Co.; rich woods near Madoc village, Hastings Co.; also in oak woods near Clifton, Niagara Falls. (*Macoun.*) Woods behind Cline's Mill, Hamilton, Ont. (*Logie.*) Vicinity of Niagara Falls. (*Maclagan.*) Woods near Westminster Ponds, London, Ont. (*Saunders & Burgess.*) Vicinity of Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Point Albino, Lake Erie. (*David F. Day.*)

460. BOSCHNIAKIA, C. A. Meyer.

(1726.) **B. glabra,** C. A. Meyer.

Orobanche glabra, Hook. Fl. II., 91.

Great Slave Lake to Fort Franklin on the Mackenzie River. (*Richardson.*) North-west coast of America. (*Menzies.*) Aleutian Islands and east to Slave Lake. (*Gray.*) Sitka and Kotzebue Sound. (*Rothr. Alask.*) Pyramid Harbor, Alaska. (*Meehan.*)

(1727.) **B. Hookeri,** Walp.

Orobanche tuberosa, Hook. Fl. II., 92.

North-west coast of America. (*Menzies.*) Not seen since. (*Gray.*)

461. EPIPHEGUS, Nutt. (BEECH-DROPS.)

(1728.) **E. Virginiana,** Bart. Cancer-root.

E. Americana, Nutt. Hook. Fl. II., 93.
Orobanche Virginiana, Linn. Pursh Fl. II., 431.

Under beech trees in thick woods. North Woods, near Annapolis, N.S. (*Macoun.*) Near Bedford, N.S. (*Lawson.*) Woods, Pictou Co., N.S. (*McKay.*) A parasitic plant on the roots of beech-trees, rather rare in New Brunswick. (*Fowler's Cat.*) Rather common in beech woods both in Quebec and Ontario. As it flowers late in deep cool woods, many collectors overlook it.

LXXII. LENTIBULARIACEÆ. Bladder-wort Family.

462. UTRICULARIA, Linn. (BLADDER-WORT.)

(1729.) **U. clandestina,** Nutt.

U. striata, Tuckerm. in Am. Journ. Sci. XLV., 29.

Shallow water of a small lake near Richibucto, Kent Co., N.B. (*Fowler's Cat.*) Little Rocher, Albert Co., N.B. (*Brittain.*)

(1730.) **U. inflata,** Walt.

U. ceratophylla, Michx. Pursh Fl. I., 15.

Floating in still water in Lower Canada. (*Pursh.*)

(1731.) **U. vulgaris,** Linn. Var. **Americana,** Gray.

Abundant in ditches and slow streams and lakes from the coast of the Atlantic to the Pacific and far northward. Above all other carnivorous plants this species has attained an unenviable notoriety by its successful trapping, of very young fish, in the small utricles so plentifully scattered over its floating stems.

(1732.) **U. minor,** Linn.

U. setacea, Michx. Hook. Fl. II., 118.
U. subulata, Pursh, Fl. I., 15, Canadian habitat.

Canada. (*Pursh.*) Barren specimens, apparently of this species, were gathered by Mr. Drummond near the Saskatchewan. (*Hooker.*) Shallow still waters. Canada to the Saskatchewan and west to British Columbia. (*Gray.*) Greenland. (*Hook. Arct. Pl.*) Drummond's specimens were very likely *U. intermedia.*

(1733.) **U. gibba,** Linn.

U. minor, Torr. Fl. N.Y. II., 21, not Linn.

Shallow water on mud at the eastern end of Partridge Lake, Anglesea township, Addington Co., Ont. (*Macoun.*)

(1734.) **U. intermedia,** Hayne.

Abundant in shallow water creeping over the soft mud. Newfoundland. (*Gray.*) Wet places in peat bogs, Anticosti; peat bog near North Sydney, and at Louisburg, Cape Breton; bogs along the Gaspé coast. (*Macoun.*) St. Patrick, Charlotte Co., N.B. (*Vroom.*) Otty's Lake, near Hampton, N.B. (*Brittain.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Vicinity of London, Ont. (*Burgess.*) Vicinity of Hamilton, Ont. (*Buchan.*) In a small marsh near Picton, Prince Edward Co.; beaver meadows, North Hastings, Peterboro' and Victoria counties, Ont.; marshes at Chicken Bay, Lake Huron; marshes at the mouth of the Kaministiquia, along the north shore of Lake Superior and around Lake Nipigon; also in marshes along the base of the Porcupine Mountain, Man. (*Macoun.*) Lake Huron. (*Dr. Todd.*) Lake Winnipeg to Bear Lake. (*Richardson.*) Near the Rocky Mountains. (*Drummond.*)

(1735.) **U. resupinata,** B. D. Greene.

Sandy bogs and borders of ponds. Specimens of a purple flowered *Utricularia* (referred here) were picked up in a sandy bog at the head of South Lake, Snowden, Victoria Co., in August, 1868, but were not examined. Since then the locality has not been visited.

(1736.) **U. cornuta,** Michx.

Sphagnous or sandy swamps from Newfoundland to Lake Superior. (*Gray.*) Common in peat bogs, Anticosti, and along the Gaspé coast; also in a peat bog at North Sydney, Cape Breton. (*Macoun.*) Near Bedford, N.S. (*Lawson.*) Lunenburg, N.S. (*Ball.*) Grand Lake, Halifax Co., N.S. (*McKay.*) Common in peat bogs, N.B. (*Fowler's Cat.*) Very abundant along Gull River between Big and Little Bushkong Lakes, south of the Colonization road; marshes at Chicken Bay, Lake Huron; also in a marshy spot at McIntyre's Bay, Lake Nipigon. (*Macoun.*) Marshes at Westminster pond, near London, Ont. (*Saunders.*) Very common in the Muskoka District. (*Burgess.*) Niagara Falls, Canadian side. (*David F. Day.*) In mud on the edge of a marshy bay, Pancake River, Lake Huron. (*J. Bell.*) Around the Gas Spring in the Mer Bleue, near Ottawa. (*Fletcher.*)

463. PINGUICULA, Linn. (BUTTER-WORT.)

(1737.) **P. villosa,** Linn.

P. acutifolia, Michx. Fl. I., 11. Pursh Fl. I., 15.

In shady woods, near rivers about Lake Mistassini. (*Pursh.*) I suspect this is *P. vulgaris.* (*Macoun.*) Labrador, Hudson Bay, northern islands and shores of the North-west coast. (*Gray.*) Islands of Chamisso and Ounalashka; also Norton Sound. (*Rothr. Alask.*)

(1738.) **P. alpina,** Linn.

Labrador. (*Steinhauer.*) Not elsewhere detected in America. (*Gray.*)

(1739.) **P. vulgaris,** Linn.

P. grandiflora, Hook. Fl. II., 118. Macoun's Cat., 1227.
P. micrOceras, Willd. Rothr. Alask., page 450.
P. macrOceras, Cham. Rothr. Alask., page 450.

Wet rocks along rivers, lakes and sea-coasts. Newfoundland. (*Miss Brenton.*) Labrador coast. (*Butler.*) Ungava Bay, Labrador. (*Mrs. Lizzie Crawford.*) Anticosti and Mingan Islands, abundant. (*Verrill.*) Along the south-west coast of Anticosti; also on the Gaspé coast near

Cape Rosier, and up the Madaline River. (*Macoun.*) Along the Dartmouth River, Gaspé Basin. (*Dr. J. Bell.*) Little Métis and Alymer, Q. (*McGill Coll. Herb.*) Sand at Humber ponds, near Toronto. [?] (*Taylor.*) Shore of Lake Huron at Southampton. (*Burgess.*) Shore of Red Bay, Lake Huron; rocks along the coast of Lake Superior from Michipicotin to Red Rock, and on the island of St. Ignace; also abundant on Huronian slates on the east coast of Lake Nipigon; and along the Bow River at Morley. (*Macoun.*) Cañon of North Branch of Elbow River, Rocky Mountains. (*Dawson.*) Woody and barren regions north to Mackenzie River. (*Richardson.*) Swamps near Miet's Rock in the Rocky Mountains, rare. (*Drummond.*) Millbank Sound, North-west Coast. (*Dr. Tolmie.*) Alaskan coast and islands, and northward. (*Gray.*) Sitka and Ounalashka. (*Rothr. Alask.*) Bartlett Bay, Alaska. (*Meehan.*) Greenland. (*Hook. Arct. Pl.*)

LXXIII. BIGNONIACEÆ. Bignonia Family.

464. TECOMA, Juss. (TRUMPET-CREEPER.)

(1740.) **T. radicans,** Juss.

This species is either indigenous on Pelee Island and Pelee Point, Lake Erie, or it has become so naturalized as to run wild, and appear to be native. It is quite hardy eastward as far as Belleville and Prince Edward Co., and bears the winter cold without being taken off the trellis.

LXXIV. ACANTHACEÆ. Acanthus Family.

465. DIANTHERA, Linn. (WATER-WILLOW.)

(1741.) **D. Americana,** Linn.

Justicia pedunculosa, Michx. Fl. I., 7.

In bays and slow flowing waters of the River St. Lawrence. (*Pursh.*) Mouth of the St. Pierre River, near Montreal. (*Holmes.*) Lachine, St. Helen's Island, Montreal; also at Chippawa, Niagara River. (*Maclagan.*) In the Niagara River above the Falls. (*Burgess.*)

LXXV. SELAGINACEÆ. SELAGO FAMILY.

466. GYMNANDRA, Pall.

(1742.) **G. Gmelini,** Cham. & Schl.

Bartsia Gymnandra, Willd. Pursh Fl. II., 430, doubtful.

Ounalashka, Popoff Islands, &c. (*Gray.*) St. Lawrence Island. [?] (*Rothr. Alask.*)

(1743.) **G. Stelleri,** Cham. & Schl.

Kotzebue Sound, at Immarook. (*Lay & Collie.*) Perhaps Island of St. Lawrence. (*Chamisso.*) St. Paul's Island. (*Elliott.*) Coast of the Arctic Sea. (*Richardson.*)

LXXVI. VERBENACEÆ. VERBENA FAMILY.

467. PHRYMA, Linn. (LOPSEED.)

(1744.) **P. Leptostachya,** Linn.

In low places along small brooks not common. Andover, N. B. (*Wetmore.*) Lower Norton, N.B. (*Brittain.*) Keswick Ridge, N.B. (*Fowler & Hay.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Montreal Mountain and St. Rémi, Q. (*McGill Coll. Herb.*) Savanne, Q., 1821. (*Holmes.*) Mirwin's Woods, near Prescott, Ont. (*Billings.*) Along the Nation River at Casselman, on the Canada Atlantic Railway; rich damp woods and along woodland brooks, in Hastings and Prince Edward counties; brook sides near Castleton, Northumberland Co., Ont.; also at Owen Sound. (*Macoun.*) Woods west of Hamilton, Ont. (*Logie.*) Wolfe Island, near Kingston, St. Catharines, and Malden. (*Maclagan.*) Vicinity of London, Ont. (*Burgess.*) Point Albino, Lake Erie. (*David F. Day.*)

468. VERBENA, Linn. (VERVAIN.)

(1745.) **V. urticæfolia,** Linn. Nettle-leaved Vervain.

Waste places, roadsides, and old pastures, appearing as if introduced but certainly indigenous. Keswick Ridge, N.B. (*Moser.*) St. Rémi,

Q. (*McGill Coll. Herb.*) Roadside, Côté St. Antoine, and other localities near Montreal, 1821. (*Holmes.*) Valley of the St. Charles, near Quebec. (*Thomas.*) Not uncommon in Ontario extending west to Owen Sound.

(1746.) **V. hastata,** Linn.

V. hastata, var. *pinnatifida*, Lam. Pursh Fl. II., 416.
V. paniculata, Lam. Pursh Fl. II., 416. Hook. Fl. II., 117.

Chiefly in waste grounds and in low pastures along streams. Common from Nova Scotia, New Brunswick and Quebec westward throughout Ontario to the Sault Ste. Marie. (*Macoun.*) Rainy River, Ont. (*Dawson.*) Abundant on Lake Winnipeg. (*J. M. Macoun.*) Canada to the Saskatchewan. (*Richardson.*) Low alluvial soils Northwest coast. (*Douglas.*) Spillimacheen, B.C. (*Hill.*)

(1747.) **V. angustifolia,** Michx.

V. rugosa, Willd. Pursh Fl. II., 417.

On dry limestone soils locally abundant. Island above Nun's Island, Montreal. 1821. (*Holmes.*) St. Helen's Island, Montreal. (*Maclagan.*) Abundant in dry rocky fields around Belleville, and on rocky ground at Shannonville station, G.T.R.; also very common in the open woods on Massassaga Point, Prince Edward Co. (*Macoun.*) Strathroy, and Port Colborne, Ont. (*McGill Coll. Herb.*) Vicinity of Whitby, Ont. (*Burgess.*)

(1748.) **V. bracteosa,** Michx.

On dry prairies apparently very rare. Collected on the high prairie north of the Saskatchewan near the forks of the Red Deer and Saskatchewan rivers. August 8th, 1879. (*David Macoun.*)

LXXVII. LABIATÆ. Mint Family.

469. ISANTHUS, Michx.

(1749.) **I. cæruleus,** Michx.

Moffit's Island, Montreal. (*Maclagan.*) Abundant on limestone shingle on both sides of the Bay of Quinte, both above and below Belleville; also abundant on gravel at Heely Falls, Northumberland Co., Ont. (*Macoun.*) Vicinity of Westminster, near London, Ont. (*Miss Crooks.*) Crevices of rocks, Bobcaygeon, Ont. (*Saunders.*)

470. TEUCRIUM, Linn. (GERMANDER.)

(1750.) **T. Canadense,** Linn.

Amongst gravel along rivers and small streams. Sand-beach at Kouchibouguac, N.B. (*Fowler's Cat.*) West River, Pictou Co., N.S. (*Lindsay.*) Boucherville Island, near Montreal. 1820. (*Holmes.*) Beauharnois Co., Q., and near Ottawa, Ont. (*McGill Coll. Herb.*) St. John's River, below the village of Sillery, Q. (*Shepperd.*) Vicinity of Ottawa, and at Casselman, on the Nation River, 30 miles from Ottawa. (*Fletcher.*) Conway's Creek at the crossing of the Brockville Road, Ont. (*Billings.*) On islands in the St. Lawrence, below Kingston; common along the Bay of Quinte and in crevices of damp rocks along the Moira and Trent rivers, Ont. (*Macoun.*) Burlington Heights, near Desjardins Canal, Hamilton, Ont. (*Logie.*) Chippawa, St. Catharines, and islands in Detroit River. (*Maclagan.*) Vicinity of London. (*Saunders & Burgess.*) A white flowered variety at Point Albino, Lake Erie. (*David F. Day.*)

471. AJUGA, Linn.

(1751) **A. reptans,** Linn. Common Bugle.

Sparingly *introduced* in fields near Montreal. (*Maclagan.*)

472. COLLINSONIA, Linn. (HORSE-BALM.)

(1752.) **C. Canadensis,** Linn. Horse-weed.

Rich low woods, western Ontario. Abundant in St. James' cemetery, Toronto; also in various places in the vicinity of Niagara Falls. (*Macoun.*) Prince's Island, near Hamilton, Ont. (*Logie.*) Chippawa, Dundas and Malden. (*Maclagan.*) Border of a field, two miles west of London. (*Saunders & Burgess.*) Rich woods near Strathroy, Ont. (*McGill Coll. Herb.*) Rich moist woods, Woodstock, N.B. (*Hay.*) [?]

473. MENTHA, Linn. (MINT.)

(1753.) **M. viridis,** Linn. Spearmint.

Escaped from cultivation in the neighborhood of old settlements. Vicinity of Halifax, N.S. (*Sommers.*) Baltimore, Albert Co., N.B.

(*Brittain.*) Common at Rivière-du-Loup, Q. (*Thomas.*) Durham Montreal and Knowlton, Q.; and Port Colborne, Ont. (*McGill Coll. Herb.*) Roadside, College Hill, Belleville; roadside near Warkworth, Northumberland Co., Ont., and very abundant in waste places at Owen Sound. (*Macoun.*) Common along roadsides in the Niagara District. (*Maclagan.*) London and Niagara Falls. (*Burgess.*) Vicinity of Toronto. (*Fowler.*)

(1754.) **M. piperata,** Linn. Peppermint.

Along brooks in old settlements. *Escaped* from cultivation. Vicinity of Halifax, N.S. (*Sommers.*) In the neighborhood of Pictou, N.S. (*McKay.*) On waste places by a brook at Truro, N.S. (*Macoun.*) Sparingly *escaped* from gardens, N.B. (*Fowler's Cat.*) In ditches half way between Castleton and Colborne, and in a small brook half a mile east of Hilton, Northumberland Co., Ont. (*Macoun.*) Common in the vicinity of London, Ont. (*Saunders & Burgess.*) Brooks and ditches, Ottawa. (*Fletcher Fl. Ott.*) St. Andrews, St. Rémi, Knowlton, Q., and Coldstream, Ont. (*McGill Coll. Herb.*)

(1755.) **M. aquatica,** Linn. Water-mint.

Wet places, *introduced.* Near Truro, N.S. (*Lindsay.*)

(1756.) **M. arvensis,** Linn. Corn-mint.

In cultivated fields, *introduced* at Norton, N.B. (*Fowler's Cat.*)

(1757.) **M. sativa,** Linn. Whorled-mint.

Damp waste places, *escaped* from cultivation. Vicinity of Pictou, N.S. (*McKay.*) Escaped from gardens, N.B. (*Fowler's Cat.*)

(1758.) **M. Canadensis,** Linn. Canada-mint.

Wet places along streams, in meadows and low places generally from the Atlantic to the Pacific, and northward to the Mackenzie River.

Var. **glabrata,** Benth.

M. borealis, Michx. Fl. II., 2.

The glabrous and more northern form. Specimens passing into this form are met with in all the northern forest. Rather rare in New Brunswick, met with at St. John and Restigouche. (*Fowler's Cat.*) Vicinity of Ottawa, (*Fletcher Fl. Ott.*) East coast of Hudson Bay. (*R. Bell.*) Turtle Mountain, 49th parallel. (*Burgess.*) Eagle Hills, south of Battleford, N.W.T. (*Macoun.*) Elk River, Kootanie Valley, B.C. (*Dawson.*) Washow Bay, west side of Lake Winnipeg. (*J. M. Macoun.*)

474. LYCOPUS, Linn. (WATER HOREHOUND.)

(1759.) **L. Virginicus,** Linn. Bugle-weed.

L. pumilus, Vahl. Pursh Fl. I., 16.
Mentha uniflorus, Michx. Fl. I., 14.

Low wet woods and by brooks from Labrador across the forest country to British Columbia.

(1760.) **L. lucidus,** Turcz. Var. **Americanus,** Gray.

L. obtusifolius, Vahl. Hook. Fl. II., 111.

Abundant in low damp or boggy places from Point du Chêne westward throughout Manitoba; especially on borders of ponds at St. Boniface, near Portage La Prairie, and at Long Lake, near Qu'Appelle. (*Macoun.*) Hudson Bay. (*Michaux.*) Red River. (*Douglas.*) Carlton House Fort on the Saskatchewan. (*Drummond.*)

(1761.) **L. sinuatus,** Ell.

L. Europæus, var. *sinuatus,* Gray, Man. Macoun's Cat., No. 1315.

Quite common from the Atlantic westward to the Pacific. This species is very easily separated from *L. Virginicus,* by noticing the cuspidate calyx teeth. Its leaves vary considerably, but all our forms are referable to one species.

475. HYSSOPUS, Linn. (HYSSOP.)

(1762.) **H. officinalis,** Linn. Garden Hyssop.

Abundant in a few localities, around towns and villages. *Escaped* from gardens. Very abundant near the St. Lawrence and Ottawa Railway station, Ottawa. Chiefly the white flowered variety. (*Fletcher.*) Waste places along the Salmon River a little east of Shannonville, and on waste heaps around Belleville, Ont. (*Macoun.*)

476. PYCNANTHEMUM, Michx. (MOUNTAIN MINT.)

(1763.) **P. lanceolatum,** Pursh.

Dry soils rather rare. Nun's Island, near Montreal. 1821. (*Holmes.*) On the shore of Lake Ontario at Weller's Bay; also in sandy swamps at Point Edward, near Sarnia. (*Macoun.*) Sandy soil, Rice Lake Plains.

(*Dr. Poole.*) Thorold and Malden, Ont. (*Maclagan.*) Vicinity of London, Ont. (*Burgess.*) Strathroy, Ont. (*McGill Coll. Herb.*)

(1764.) **P. incanum,** Michx.

On dry soil. Reported from western Ontario. Canada. (*Goldie.*) New England to western Canada. (*Gray.*) Vicinity of Hamilton, Ont. (*Logie.*) We have never seen a Canadian specimen.

477. ORIGANUM, Linn. (WILD MARJORAM.)

(1765.) **O. vulgare,** Linn.

Abundant on the sandy railroad track and in thickets at Hawkstone, Ont. Completely *naturalized.* (*Burgess.*)

478. THYMUS, Linn. (THYME.)

(1766.) **T. Serpyllum,** Linn. Creeping Thyme.

Old fields and pastures. *Naturalized* in an old field at Truemanville, N.S. (*Trueman.*) Greenland. (*Hook. Arct. Pl.*)

479. SATUREIA, Linn. (SAVORY.)

(1767.) **S. hortensis,** Linn. Summer Savory.

Cultivated as a sweet-herb, and escaped to dry sandy soil in a few localities. Found growing on a railway embankment near Hillsborough, N.B. (*Brittain.*) Very abundant on the sands of Presqu'île Point, Lake Ontario, and occasionally in waste places around Belleville. (*Macoun.*) *Naturalized* in places near Parkdale, Toronto. (*Fowler.*)

480. MICROMERIA, Benth.

(1768.) **M. Douglasii,** Benth. Yerba Buena.

Frequent in shady pine woods, North-west America. (*Menzies.*) In woods near Victoria, Vancouver Island. (*J. Richardson & Fletcher.*)

481. CALAMINTHA, Mœnch. (CALAMINT.)

(1769.) **C. Nuttallii,** Benth.

C. glabella, var. *Nuttallii*, Gray, Man. Ed. V., 349. Macoun's Cat., No. 1321.
Micromeria glabella, Benth. Hook. Fl. II., 113.

On rocks at the foot of the cataract, Niagara Falls; also shore of Lake Huron at Red Bay. (*Macoun.*) Niagara Falls. (*Maclagan & Burgess.*) Observed along the shore of Lake Erie, in rocky places, from Fort Erie to Point Albino. (*David F. Day.*) Limestone points along Lake Erie. (*McGill Coll. Herb.*) Shore of flat limestone rock on both east and west sides of La Cloche Island, Georgian Bay. (*J. Bell.*) Niagara Falls to Lake Superior. (*Gray.*)

(1770.) **C. Clinopodium,** Benth. Basil.

C. vulgare, Pursh Fl. II., 410.
Melissa Clinopodium, Benth. Hook. Fl. II., 114.

Borders of fields and rocky thickets amongst grass. Vicinity of Pictou and Dalhousie, N.S. (*McKay.*) Open hillsides on the Restigonche, N.B. (*Fowler's Cat.*) Bank of the Rideau River, near Ottawa; also in Bosanquet, Huron Co. (*McGill Coll. Herb.*) On rocky ground quite common in the vicinity of Ottawa, and thence westward throughout Ontario as far west as the Sault Ste. Marie. (*Macoun.*) Canada, in various places. Norway House Fort, Lake Winnipeg. *Introduced.* (*Richardson.*) It is certainly indigenous in every part of Ontario, but may be introduced in the Maritime provinces.

482. MELISSA, Linn. (BALM.)

(1771.) **M. officinalis,** L. Common Balm.

On waste ground, Pelee Island, Lake Erie. Apparently *naturalized.* (*Macoun.*) Well established at one or two places, Niagara Falls. (*Burgess.*)

483. HEDEOMA, Pers. (PENNY ROYAL.)

(1772.) **H. pulegioides,** Pers. American Penny-royal.

On rich damp soil in shady woods. In woods near North Sydney, Cape Breton. (*Macoun.*) Dalhousie, and on sea beaches at Pictou, N.S.

(*McKay.*) In a waste field at Green Head, St. John, N.B. (*Fowler's Cat.*) St. Remi, Q. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Roadside, two miles west of Prescott, Ont. (*Billings.*) In woods, two miles west of Belleville; also in shady woods near Hilton, Northumberland Co., Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie & Burgess.*) Thorold and Malden, Ont. (*Maclagan.*) Common ten miles west of London, Ont. (*Saunders.*)

(1773.) **H. hispida,** Pursh.

Very abundant on limestone gravel at Belleville, Ox Point, and Massassaga Point, Bay of Quinte, frequent at other points along the bay; also at Heely Falls on the Trent, Northumberland Co., Ont. Common on dry soil at the Red Deer Lakes, Bad Hills and Hand Hills west of the South Saskatchewan; also in some abundance on the dry prairie west of Old Wives Lakes. (*Macoun.*)

484. MONARDA, Linn. (HORSE-MINT.)

(1774.) **M. didyma,** Linn. Bee Balm.

M. Kalmiana, Pursh Fl. I., 17.
M. coccinea, Michx. Fl. I., 16.

Low rich soil, rather rare in western Ontario. Common in the vicinity of London, Ont. (*Saunders & Burgess*) Near Mount Forest, Ont. (*Logie.*) In the neighborhood of Bayfield, Lake Huron. (*John Gibson.*) Moist woods by Sydenham River, Lambton Co., Ont. (*McGill Coll. Herb.*)

(1775.) **M. clinopodia,** Linn.

M. rugosa, Ait. Pursh Fl. I., 17.
Pycnanthemum Monardella, Michx. Fl. II., 8.

Western Canada to Illinois. (*Gray.*) We know nothing of this species as a Canadian plant.

(1776.) **M. fistulosa,** Linn. Oswego Tea.

M. allophylla, Michx. Fl. I., 16.
M. oblongata, Ait. Pursh Fl. I., 18.

Dry gravelly soil, in oak and pine forests. Bank of the St. Lawrence, half a mile west of Prescott, and occasionally throughout the country, rather rare. (*Billings.*) Common on all suitable soils throughout the southern and western counties of Ontario, extending to Lake Superior.

Var. **mollis,** Benth.

This variety is exceedingly common throughout the whole prairie region, wherever there is brush, and extends westward through the Rocky Mountains to the interior of British Columbia at Spence's Bridge. (*Hill.*)

(1777.) **M. punctata,** Linn. Horse-mint.

M. lutea, Michx. Fl., 16.

Bellhouse Farm, East Flambro', Ont. (*Logie.*) We are very doubtful of the occurrence of this species.

485. BLEPHILIA, Rafin.

(1778.) **B. hirsuta,** Benth.

Monarda hirsuta, Pursh. Fl. I., 19.
M. ciliata, Michx. Fl. I., 16, not Linn.

Moist shady places, Canada and Vermont. (*Gray.*) Vicinity of Brome Lake, Eastern Townships, Q. (*McGill Coll. Herb.*)

486. LOPHANTHUS, Benth.

(1779.) **L. nepetoides,** Benth.

Hyssopus nepetoides, Willd. Pursh Fl. II., 406.

Borders of woods and along river margins. Montreal Mountain, 1821. (*Holmes.*) Along the Nation River at Casselman station, Canada Atlantic Railway, 30 miles from Ottawa. (*Fletcher.*) Along the railway between Niagara Falls and Lake Ontario. (*Macoun.*) Chippawa and Malden, Ont. (*Maclagan.*) Fields near Cove, vicinity of London, not uncommon. (*Saunders & Burgess.*) Fort Erie and Albino Point, Lake Erie. (*David F. Day.*)

(1780.) **L. scrophulariæfolius,** Benth.

Hyssopus scrophulariæfolius, Willd. Pursh Fl. II., 406.

Borders of thickets along the slopes of Queenston Heights, one mile beyond Queenston station. (*Macoun.*)

(1781.) **L. anisatus,** Benth.

Stachys fœniculum, Pursh Fl. II., 407.

This species is found as far east as Rainy Lake and extends westward throughout the prairie region, but particularly in the copse wood on

the margin of the great prairies; in the Peace River region, it is very abundant, north to Lake Athabasca. (*Macoun.*) Plains of Saskatchewan, abundant, to Fort Franklin on the Mackenzie River. (*Richardson.*) Assiniboine River. (*Douglas.*) Dog Head, Lake Winnipeg; Selkirk and along the C. P. R. west of Brandon. (*J. M. Macoun.*)

487. NEPETA, Linn. (CAT-MINT.)

(1782.) **N. Cataria,** Linn. Catnip.

Naturalized and very common, on roadsides, along fences, in old gardens and around old buildings both in town and country. There are no settlements in Ontario, where it does not appear. Rare in the eastern provinces.

(1783.) **N. Glechoma,** Benth. Ground Ivy.

Glechoma hederacea, Willd. Pursh Fl. II., 408.

Escaped from gardens and commonly found around fences and amongst stones. Harbor Grace, Newfoundland. (*McGill Coll. Herb.*) Escaped from gardens at Pictou, N.S. (*McKay.*) Abundant at Truro and Windsor, N.S. (*Macoun.*) Vicinity of Halifax, N.S. (*Lindsay.*) Abundant on roadsides, and about dwellings, between Shediac and Shemogue, N.B. (*Fowler's Cat.*) Montreal Mountain, and Durham, Q. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Along fences in London, Ont. (*Burgess.*) Very common on waste places, in gardens, and along the streets at Sarnia and Amherstburgh, Ont. (*Macoun.*)

488. DRACOCEPHALUM, Linn. (DRAGON-HEAD.)

(1784.) **D. parviflorum,** Nutt.

This species seems to extend eastward only to the neighborhood of Ottawa, but in north-western Ontario it is very plentiful. Its usual habitat is in recently burnt woods, where the land is only partly cleared, or sparsely timbered. In such localities it extends west to the Pacific, and northward to Fort Franklin on the Mackenzie River. Fort Youcon, Alaska. (*Rothr. Alask.*)

489. SCUTELLARIA, Linn. (SKULLCAP.)

(1785.) **S. lateriflora,** Linn. Mad-dog Skullcap.

Wet borders of streams from Newfoundland, Anticosti and the eastern provinces to the Pacific, and northward to Lake Athabasca.

(1786.) **S. canescens,** Nutt.

S. serrata, Pursh, Fl. II., 413.

River banks, western Ontario. (*Gray.*) Canada. (*Goldie.*) We have no knowledge of Canadian localities for this species.

(1787.) **S. parvula,** Michx.

River banks, amongst sand or gravel. Halifax, N.S. (*Sommers.*) (Doubtful.) Grosse Isle, River St. Lawrence. (*Shepperd.*) St. Helen's and Moffitt's islands, Montreal. (*Maclagan.*) Montreal Mountain, below Priests' Farm, 1821. (*Holmes.*) On rocks in the vicinity of Ottawa. (*Fletcher Fl. Ott.*) Wet rocky ground along the Moira above Belleville; also on both sides of the Bay of Quinte below Belleville, and in crevices of rocks at Heely Falls on the Trent, Northumberland Co., Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) On sands, Pelee Point, Lake Erie. (*Burgess & Macoun.*) Point Albino, Lake Erie. (*David F. Day.*) Vicinity of Toronto. (*Fowler.*) Islands east of Mississaugi River, Georgian Bay. (*J. Bell.*) Saskatchewan. (*Richardson.*)

(1788.) **S. angustifolia,** Pursh.

Moist ground, British Columbia. (*Gray.*) Near the sources of the Columbia River. (*Douglas.*)

(1789.) **S. galericulata,** Linn.

Wet soil, either in woods, swamps or along rivers, from Newfoundland, Anticosti and the eastern provinces to the Pacific, and north to Fort Franklin on the Mackenzie River.

490. BRUNELLA, Linn. (SELF-HEAL.)

(1790.) **B. vulgaris,** Linn.

Prunella vulgaris, Linn. Pursh Fl. II., 411.

Abundant in pastures, by roadsides and in meadows; also in wet places in woods and by small streams, throughout the country, extend-

ing from the Atlantic to the Pacific. It is probable there are two forms in the east where there may be an introduced one, but the western and Ontario form is certainly indigenous. Sitka and Ounalashka. (*Rothr. Alask.*)

491. PHYSOSTEGIA, Benth. (FALSE DRAGON-HEAD.)

(1791.) **P. Virginiana,** Benth.

Dracocephalum Virginianum, Willd. Pursh Fl. II., 411.
D. variegatum, Vent. Pursh Fl. II., 411.

Wet grounds along streams. St. John's, Q. (*Maclagan.*) Small island opposite Point St. Charles, Montreal, 1821. (*Holmes.*) On a small island near St. Annes, Q.; on Toronto Island, and at Chatham, Ont. (*McGill Coll. Herb.*) On sandy points extending into Brighton Bay, Presqu'île Point, Lake Ontario. (*Macoun.*) Point Albino, Lake Erie. (*David F. Day.*) Abundant at Point du Chêne, Man. (*Macoun.*) Turtle Mountain, 49th parallel. (*Dawson.*) Very common on islands in Lake Winnipeg and amongst rocks on both sides of the lake; also along the Souris River south of Moose Mountain. (*J. M. Macoun.*)

(1792.) **P. parviflora,** Nutt.

P. Virginiana, Benth. Var. β. Hook. Fl. II., 116.

Banks of streams, Saskatchewan to British Columbia. (*Gray.*) Plains of the Saskatchewan. (*Drummond.*) In the bed of Little Arm Creek, near its source, Assiniboia. (*Macoun.*) Margin of Little Shuswap Lake, B. C. (*Dawson.*) Along the Thompson River at Spence's Bridge, B.C. (*Hill.*)

492. MARRUBIUM, Linn. (HOREHOUND.)

(1793.) **M. vulgare,** Linn.

Escaped from gardens, into waste places around dwellings. Common in the neighborhood of London. (*Burgess & Saunders.*) Roadsides, St. Catharines and Malden, Ont. (*Maclagan.*) Roadsides in numerous places in Prince Edward, Hastings and Northumberland counties, Ont.; also along roadsides at Owen Sound. (*Macoun.*) Parkdale near Toronto. (*Fowler.*) Aldsboro', Ont. (*McGill Coll. Herb.*) Streets of Victoria, Vancouver Island. (*Fletcher.*)

493. LEONURUS, Linn. (MOTHERWORT.)

(1794.) **L. Cardiaca,** Linn. Common Motherwort.

Waste and cultivated ground, in gardens and manured soil. This species is completely *naturalized* in all the older provinces, but does not become a weed, except around dwellings.

494. LAMIUM, Linn. (DEAD-NETTLE.)

(1795.) **L. amplexicaule,** Linn. Henbit Dead-nettle.

Introduced into gardens by means of seeds, in a few localities. St. Andrews, N.B. (*Vroom.*) Shelving clay banks of the St. Lawrence, a mile west of Prescott. (*Billings.*) A weed in gardens at Belleville, Ont. (*Macoun*) Rather rare in gardens at Ottawa. (*Fletcher Fl. Ott.*) Gardens in Kingston, Ont. (*Burgess.*)

(1796.) **L. purpureum,** Linn. Red Dead-nettle.

On ballast heaps at North Sydney, Cape Breton, and Pictou, N.S. (*Macoun.*) *Introduced* in ballast.

(1797.) **L. album,** Linn. White Dead-nettle.

Sparingly *introduced* at Hamilton, Ont. (*Buchan.*)

495. GALEOPSIS, Linn. (HEMP-NETTLE.)

(1798.) **G. Tetrahit,** Linn. Common Hemp-nettle.

A very common weed around barns, and in rich damp soil in grain fields. *Naturalized* in all the settled parts of Canada. Sitka. (*Meehan.*)

(1799.) **G. Ladanum,** Linn. Hemp-nettle.

Introduced in ballast at St. John, N.B. (*Hay*)

496. STACHYS, Linn. (WOUNDWORT.)

(1800.) **S. palustris,** Linn.

S. aspera, Michx. Fl. II., 4, in part.

Wet ground from Newfoundland to the Pacific. (*Gray.*) Along all rivers and small streams in the eastern provinces and Ontario, but

in the prairie region quite common around small ponds or marshy spots; common in the Rocky Mountains and British Columbia. North to Fort Franklin on the Mackenzie River. (*Richardson.*)

(1801.) **S. aspera,** Michx.

S. hispida, Pursh Fl. II., 407.
S. palustris, var. *aspera,* Gray, Man. Ed. V., 358.

Apparently rare in Ontario and confined to the western part. Vicinity of London, Ont. (*Burgess.*) Vicinity of Toronto. (*Fowler.*)

(1802.) **S. ciliata,** Dougl.

Oregon to British Columbia, along the coast in damp shady places. (*Gray.*) In the vicinity of Victoria, Vancouver Island. (*Fletcher & Meehan.*) In woods near Port Moody, B.C. (*Hill.*)

Var. **pubens,** Gray.

Washington Territory to Fraser River, B.C. (*Gray.*) Queen Charlotte Islands. (*Dawson.*)

LXXVIII. PLANTAGINACEÆ. Plantain Family.

497. PLANTAGO, Linn. (PLANTAIN)

(1803.) **P. cordata,** Lam.

P. Kentuckensis, Michx. Fl. I., 94.
P. data, Pursh Fl. I., 98.

Along streams, Canada. (*Pursh.*) Malden, Ont. (*Maclagan.*) Ditches and swamps along the Canada Southern Railway, at Colchester station, near Amherstburgh. (*Macoun.*)

(1804.) **P. major,** Linn. Common Plantain.

Naturalized in all the older settlements throughout Canada Besides the introduced form there is an indigenous one, which is always found along the margins of rivers or lakes, generally in damp crevices of rocks, or amongst gravel. This form is common from Lake Superior westward, and is particularly abundant along small streams in the prairie region. It has also been collected in the Kootanie Valley, B.C., by Dr. G. M. Dawson.

Var. **Asiatica,** Decaisne.

A very large indigenous form along the Pacific Coast from California to British Columbia, and from the Saskatchewan to the Arctic Sea. (*Gray.*) Fort Wrangel, Alaska. (*Meehan.*) It is probable that our large leaved form from the prairie region may be this variety, but we have no certainty of this.

Var. **minima,** Decaisne.

This is a small hairy form, growing in the vicinity of the sea on Vancouver Island. Neighborhood of Victoria. (*Fletcher.*) Departure Bay, Vancouver Island. (*Meehan.*)

Var. **bracteata,** Macoun.

This is a stout, coarse, form with large oval leaves and with the spikes always bracted immediately underneath the flowers. Around dwellings in Kiledar, Addington Co., Ont. ; also in very wet or boggy places at the entrance to Pelee Point, Lake Erie. (*Macoun.*)

(1805.) **P. Rugelii,** Decaisne.

P. Kamtschatica, Hook. Gray, Man. Ed. V., 311. Macoun's Cat., No. 1195.

Frequent along old roads in grassy woods ; also in meadows and pastures, generally confounded with *P. major,* but easily distinguished by its long tapering attenuated spikes. At Casselman and other places in the vicinity of Ottawa, growing in old clearings. (*Fletcher.*) Rather common along the margin of shady woods at Belleville, and abundant in University Park, Toronto. (*Macoun.*) Vicinity of Toronto and London. (*Burgess.*) Vicinity of Hamilton. (*Buchan.*) Near Fort Erie, Ont. (*David F. Day.*)

(1806.) **P. eriopoda,** Torr.

P. lanceolata, var. *β.* and *γ.* in part. Hook. Fl. II., 123.

On the shore of Anticosti at the head of Ellis Bay, and along the Gaspé coast at the Rock Dam, Grand Etang, and Cape Chat. (*Macoun.*) Near Kamouraska, Q. (*Burgess.*) Very abundant on saline soil throughout the prairie region, and northward to the Arctic Sea. We cannot separate the St. Lawrence specimens from those obtained on the prairies.

(1807.) **P. macrocarpa,** Cham. & Schl.

P. lanceolata, var. *β.* in part. Hook. Fl. II., 123.

Coast of British Columbia to Alaska and the Aleutian Islands. (*Gray.*) North-west coast. (*Menzies.*) Sitka and Ounalashka. (*Rothr. Alask.*)

(1808.) **P. maritima,** Linn. Seaside Plantain.

P. pauciflora, Pursh Fl. I., 99, in part.

Atlantic coast north of the Gulf of St. Lawrence. (*Gray.*) Coast of Labrador. (*Pursh.*) On cliffs overlooking the sea, Sydney Bar, Cape Breton, and on cliffs along the Gaspé coast, especially about Cape Rosier. These forms are perennial and never grow in marshes. (*Macoun.*) Perennial at St. John, N.B. (*Fowler's Cat.*) Pacific coast from British Columbia to the Aleutian Islands and Behring Straits. (*Gray.*) Abundant in crevices of rocks along the coast at Victoria, Vancouver Island. (*Macoun & Fletcher.*) Frequent on Queen Charlotte Islands. (*Dawson.*) Sitka and Ounalashka. (*Rothr. Alask.*) Newfoundland and Labrador. (*Morrison.*)

(1809.) **P. decipiens,** Barneoud.

P. pauciflora, Pursh Fl. I., 99, in part.
P. maritima, var. *juncoides,* Gray, Man. Ed. V., 311.

Salt marshes, Atlantic coast, from Labrador to New Brunswick. (*Gray.*) Common in marshes around the coasts of the Gulf of St. Lawrence and the maritime provinces, ascending the St. Lawrence to Quebec. It is probable that both this and the preceding are common around the coast of Nova Scotia, but in the absence of specimens, we cannot determine. (*Macoun.*) Around the coast of New Brunswick, in salt marshes and in clefts of rocks. (*Fowler's Cat.*) In great profusion in and around salt marshes on Red Deer River about one mile from Lake Winnipegoosis, Lat. 53°. (*Macoun.*)

(1810.) **P. lanceolata,** Linn. Rib-wort Plantain.

P. lanceolata, var. ;. Timbali, Sow. Eng. Bot. VII., 171.

Naturalized on lawns, and by roadsides in most of the settled parts of Canada. Reported from nearly all the towns and cities in the eastern provinces, Quebec and Ontario. It is also becoming quite common at Victoria, Vancouver Island.

(1811.) **P. Patagonica,** Jacq. Var. **gnaphalioides,** Gray.

P. Lagopus, Pursh Fl. I., 99, not Linn.

Dry sandy soil frequent throughout the western prairies. On dry hillsides near Wood Mountain, thence westward, in great abundance, to beyond the Three Buttes, Lat. 49°, growing among the short dry grass of the plains. (*Dawson.*) West of the South Saskatchewan, in the vicinity of the Red Deer Lakes, abundant; also in and around the Cypress Hills and westward. (*Macoun.*) Vicinity of Maple Creek, north of

Cypress Hills. (*J. M. Macoun.*) On very dry soil at Lytton, B.C. (*Macoun & Fletcher.*) Abundant in dry valleys of southern interior of British Columbia. (*Dawson.*)

Var. **spinulosa,** Gray.

In same situations as the preceding variety, but much rarer. Wood Mountain, on the 49th parallel. (*Burgess.*) On the Bear Hills, north of the Red Deer Lakes and near the Hand Hills, N.W.T. (*Macoun.*)

Var. **aristata,** Gray.

P. aristata, Michx. Fl. I., 95.

This form seems to prefer a moister and more elevated region. Summit of the Cypress Hills and northward through the sandhills to the South Saskatchewan. (*Macoun.*)

(1812.) **P. Bigelovii,** Gray.

In salt marshes near the coast at Victoria, Vancouver Island. (*Macoun.*) A small form. (*Gray.*)

(1813.) **P. pusilla,** Nutt.

B. Bigelovii, Watson. Dawson, Bound. Rep., 367.

On sandy or gravelly soil in the prairie region. Along the Trader's Road, east of Wood Mountain, 49th parallel. (*Dawson.*) Cypress Hills north-west of Fort Walsh. (*Macoun*) On the prairie at Maple Creek north of Cypress Hills. (*J. M. Macoun.*)

(1814.) **P. media,** Linn. Scented Plantain.

Sparingly *introduced*, but thoroughly *naturalized* and very persistent on Parliament Hill and Major's Hill, Ottawa. (*Fletcher.*)

498. LITTORELLA, Linn. (SHORE-WEED.)

(1815.) **L. lacustris,** Linn. Plantain Shore-weed.

On the margins of lakes and ponds, growing under water, or close to it. Collected on Ship Island, in Gull Lake, an expansion of Gull River, below Minden, Victoria Co., Ont. July 29th, 1868. It was many miles from any settlement and unquestionably indigenous. (*Macoun.*) North end of Lake Champlain. (*Pringle.*) On the shores of Grand Lake, N.S. (*Miss E. K. Wright.*)

GEOLOGICAL AND NATURAL HISTORY SURVEY OF CANADA.
ALFRED R. C. SELWYN, LL.D., F.R.S., F.G.S., DIRECTOR.

CATALOGUE

OF

CANADIAN PLANTS.

PART III.—APETALÆ.

BY

JOHN MACOUN, M.A., F.L.S., F.R.S.C.,
Botanist to the Geological and Natural History Survey of Canada.

Montreal:
DAWSON BROTHERS.
1886.

PREFACE.

PART III.

This publication, constituting Part III. of the Catalogue of Canadian Plants, carries the work on to the end of the exogens and completes the first volume. It is identical in form with the first two parts, with the exception of a change in the style of type used in the names of introduced plants; a change which enables the names of such plants to be more readily distinguished.

The writer has again to thank Dr. Asa Gray and Mr. Serano Watson for their continued assistance. To these gentlemen all doubtful forms have been referred for final examination and decision, with the exception of the Willows, which, as more fully noted on a subsequent page, have been examined and revised by Mr. M. S. Bebb, of Rockford, Ill.

The addendum contains facts relating to the plants enumerated in the two first parts of the volume, which have been ascertained since these parts were printed, also the names of such plants as have since been found, but which were not formerly known to occur in the Dominion. To botanists throughout Canada who have co-operated with the author, he tenders his heartfelt thanks, and expresses the hope that this work, to which they have lent assistance, will meet with their approval. The names of many such friends will be found in the addendum. Thanks are especially due to Mr. D. N. St. Cyr, F.R.S.C., of the Department of Public Instruction, Quebec, who by placing his large collection at our disposal has enabled important additions to our knowledge of the flora of the Province of Quebec to be made.

In conclusion, it may be added that nearly all the stations mentioned in the addendum are represented in the herbarium of the survey, and that no references considered doubtful have been included.

JOHN MACOUN.

OTTAWA, April, 1886.

ERRATA.

Page 406. For "ERIGONUM" read "ERIOGONUM."
" 412. Under No. 1889, for "Moose River" read "Moon River."
" 430. " 1953, for "M. albus" read "M. alba."
" 431. For "LAPORTÆA" read "LAPORTEA."
" 446. Under No. 2015, for "*S. rigida*, Muhl." read "*S. rigida*, Willd."
" 449. " 2025, for "humillina" read "humillima."
" 456. " 2054, for "P. grandidenta" read "P. grandidentata."
" 490. " 204, for "L. campestre, Linn." read "L. campestre, R. Br."
" 491. For "POLANSIA" read "POLANISIA."
" 494. Under No. 253, for "P. pauciflora" read "P. paucifolia."
" " " 2109, for "S. multicaule" read "S. multicaulis."
" 499. Under Paronychia, for "This and the three following" read "This and the two following."
" " Under No. 329, for "C. parviflora, Moquin" read "C. parvifolia, Moçino."
" 500. For "Calandrina" read "Calandrinia."
" 501. Under No. 361, for "*S. Oregana*" read "*Sida Oregana*."
" 506. Under No. 473, for "H. decumbens, Gray" read "H. decumbens, Benth."
" 507. Under No. 2124, for "O. scorpoides" read "O. scorpioides."
" 526. " 732, for "H. parviflora" read "H. parvifolia."
" 528. " 763, for "S. acre, Lindl." read "S. acre, Linn."
" 529. For "PROSERPINACEA" read "PROSERPINACA."
" " For "HIPPURUS" read "HIPPURIS."
" 541. Under No. 952, (var.) for "Roadsides, Asylum, London, Ont." read "Roadsides, Aylmer, Ont."
" " Under No. 2161, for "P. macrocora" read "P. macrocera."
" 545. " 1046, for "A. Novæ-Belgii" read "A. Novi-Belgii."
" 550. " 1144, for "H. Maximiliania" read "H. Maximiliani."

APETALOUS EXOGENS.

LXXIX. NYCTAGINACEÆ. Four-o'clock Family.

499. OXYBAPHUS, Vahl. (OXYBAPHUS.)

(1816.) **O. nyctagineus,** Sweet.

Allionia nyctaginea, Michx. Pursh, Fl. I., 97.

Rocky or sandy places very rare. On sand banks at the mouth of Rainy River, close to the Lake of the Woods. (*Macoun.*) On sandy shores, southern shore of Lake of the Woods and clay banks, Wood End, Souris River. (*Dawson.*)

(1817.) **O. hirsutus,** Sweet.

Allionia hirsuta, Pursh, Fl. I., 729.

On sandy or gravelly slopes, rare and local. Sand hills along Pine Creek, Man.; and in the Qu'Appelle valley near its confluence with the Assiniboine, also on sandy ridges north end of Old Wives Lakes. (*Macoun.*) About Fort Carlton on the North Saskatchewan. (*Drummond.*)

(1818.) **O. angustifolius,** Sweet.

Allionia linearis, Pursh, Fl. I., 729.
Calymenia angustifolia, Fraser, Cat., 1813.

On dry gravelly slopes, eastern end of Cypress Hills. (*Macoun.*) On gravel at Antelope and Medicine Hat along the Canadian Pacific Railway. (*J. M. Macoun.*) Along Belly River near Fort McLeod; also sterile soil along the Milk River, 49th parallel. (*Dawson.*)

500. ABRONIA, Juss. (ABRONIA.)

(1819.) **A. umbellata,** Lam.

In sand, coast of Vancouver Island at Victoria and Cadboro Bay. (*Fletcher.*)

(1820.) **A. latifolia,** Eschscholtz.

A. arenaria, Menzies. Hook. Fl. II., 125.

Common on the shore at Victoria, Vancouver Island. (*Fletcher & Cowley.*)

LXXX. ILLECEBRACEÆ. KNAWEL FAMILY.

501. PARONYCHIA, Juss. (WHITLOW-WORT.)

(1821.) **P. sessiliflora,** Nutt.

Dry gravelly ridges from Fort Ellice westward to Morley, particularly abundant about the source of the Qu'Appelle. (*Macoun.*) Gravel ridges, Moose Mountain, Assiniboia. (*J. M. Macoun.*) Forks of Pincher Creek, foot hills of Rocky Mountains. (*Dawson.*)

502. ANYCHIA, Rich. (FORKED CHICKWEED.)

(1822.) **A.** DICHOTOMA, Michx.

Shore of Lake Erie, Norfolk Co., 1867. (*Dr. Nicholl.*) This species has not been reported since and should be looked for in the south-western counties of Ontario.

LXXXI. AMARANTACEÆ. AMARANTH FAMILY.

503. AMARANTUS, Linn. (AMARANTH.)

(1823.) **A.** PANICULATUS, Linn. Prince's Feather.

A naturalized weed in some localities. Rare as a weed at Belleville, Ont. (*Macoun.*) London, Ont. (*Burgess.*) Vicinity of Hamilton and at Guelph, Ont. (*Buchan.*) Vicinity of Toronto. (*A. Fowler.*)

(1824.) **A.** HYPOCHONDRIACUS, Linn.

Rarely escaped from cultivation. Sometimes spontaneous in gardens for a few years. Vicinity of Hamilton, Ont. (*Buchan.*) Roadside, Bleury Street, Montreal, 1821. (*Holmes.*)

(1825.) **A.** RETROFLEXUS, Linn. Pigweed.

Apparently unknown in Nova Scotia, but common at Fredericton, N.B. Introduced and well established in all well manured soils throughout Ontario. It has also reached the North-west and penetrated to the summit of the Rocky Mountains, along the Canadian Pacific Railway, and will be a perpetual source of trouble to western farmers. Common at Victoria, B.C. (*Fletcher.*)

(1826.) **A.** ALBUS, Linn.

Naturalized on waste heaps near towns and extensively spreading along railways throughout the whole country, being found in the North-west and British Columbia wherever railway construction is going on.

(1827.) **A.** BLITOIDES, Watson.

Well established at Point Edward near Sarnia, Ont., Sept. 15, 1884. Possibly a railway introduction. (*J. M. Macoun.*)

504. ACNIDA, Linn. (WATER HEMP.)

(1828.) **A. ruscocarpa,** Gray.

Montelia tamariscina, Gray, Man. 413, 1868. Macoun's Cat. No. 1506.
A. ruscocarpa, Michx. Pursh, Fl. I., 205, in part.
A. altissima, Michx. Herb. Vide Gray.

A tall dicœcious plant, growing on alluvium in river bottoms. Hull, P.Q. (*Fletcher Fl. Ott.*) In muddy places along the Nation River at Casselman, west of the Canada Atlantic Railway; also in the Mill Pond at Madoc Village, North Hastings and along the Salmon River at Shannonville, east of Belleville, Ont. (*Macoun.*) Malden, Ont. (*Maclagan.*) Low flats along the River Thames, London, Ont. (*Saunders & Burgess.*)

(1829.) **A. tuberculata,** Moq.

A. ruscocarpa, Moq. DC. Prod. XIII., II., 278.
A. cannabina, var. *concatenata,* Moq. DC. Prod. XIII., II., 278.
Montelia tamariscina, var. *concatenata,* Gray, Man. 413, 1868.

This form has the flowers, on the lower part of the stem, gathered into close clusters in the axils of the leaves. On sand along the Ottawa River at Brittania, near Ottawa. (*Macoun.*) Low, wet fields, London, Ont. (*Burgess.*)

LXXXII. CHENOPODIACEÆ. Goosefoot Family.

505. MONOLEPIS, Schrad.

(1830.) **M. chenopodioides,** Moq.

Blitum Nuttallianum, R. & S. Bourgeau, Palliser's Rep. 260.
B. chenopodioides, Nutt. Hook. Fl. II., 126.

A low annual on saline soil throughout the prairie region to the Rocky Mountains. (*Macoun.*) Alkaline soil, Wood Mountain, 49th parallel. (*Dr. Millman.*) Abundant in numerous places on the Souris Plain. (*J. M. Macoun.*) Carlton House on the North Saskatchewan. (*Drummond.*)

506. CHENOPODIUM, Linn. (GOOSEFOOT.)

(1831.) **C. album,** Linn. Lamb's Quarters.

Very abundant as a weed in cultivated grounds, in waste places, and around barns. Introduced in all the eastern provinces, but certainly indigenous throughout the prairie region. On the line of the Canada Pacific Railway, this species has already taken possession of the embankments and even ditches and grows stout and tall, extending now to the Pacific. It is frequently used as a pot herb. Common at Victoria, B.C. (*Fletcher.*) Fort Selkirk, Youcon River, Lat. 62° 45′ (*Schwatka.*) Eastern arctic America. (*Hook. Arct. Pl.*)

(1832.) **C. leptophyllum,** Nutt.

C. album, var. *leptophyllum*, Moquin, Macoun's Cat. No. 1477.

Easily distinguished from *C. album* by its linear leaves and small flowers. Generally amongst sand-hills from Long Lake westward to the Rocky Mountains. (*Macoun.*) Gravelly soil, Wood End, Souris River. (*Burgess.*)

Var. **subglabrum,** Watson.

Abundant on sand hills at the source of the Qu'Appelle, N.W.T., July 11th, 1879. (*Macoun.*)

(1833.) **C. hybridum,** Linn. Maple-leaved Goosefoot.

C. urbicum ? Hook. Fl. II., 127.

Introduced in Quebec and Ontario, generally found around towns and

villages in company with *C. album*. It is indigenous on the shores of Lake Winnipeg and throughout the North-west, extending northward to Bear Lake, Lat. 64°, and westward along the Canadian Pacific Railway to the Pacific. Common at Victoria, B.C. (*Fletcher.*)

(1834.) **C.** URBICUM, Linn.

C. urbicum, var. *rhombifolium*, Moq. Fowler's Cat. No. 430.

Introduced eastward in ballast, sparingly around some of the western towns and villages. Ballast heaps at Pictou, N.S. (*Macoun.*) Streets of Fredericton, and at the railway depot, Carleton, N.B. (*Fowler's Cat.*) Waste places around Ottawa. (*Fletcher, Fl. Ott.*) In the streets of Stirling Village, Hastings Co., Ont. (*Macoun.*) Waste places, Toronto. (*A. Fowler.*) Vicinity of Hamilton. (*Logie.*)

(1835.) **C.** BOTRYS, Linn. Jerusalem Oak.

Sparingly introduced along railway embankments and on sandy or gravelly beaches. Sea shore at Pennant, N.S. (*Sommers.*) On the shore at Government House, Fredericton, N.B. (*Fowler's Cat.*) Waste places at Ottawa. (*Fletcher Fl. Ott.*) Grand Trunk Station, Prescott, Ont. (*Billings.*) Sandy fields rear of Picton, also near Belleville and on the roadside north of Colborne, Ont.; sandy beaches, Point Edward near Sarnia, and at Niagara Falls. (*Macoun.*) Roadsides, common at Hamilton. (*Logie & Buchan.*) Waste places, not common at London. (*Saunders.*) Sandy soil at Hamilton and Southampton, Ont. (*Burgess.*) St. Catharines. (*Maclagan.*) Dundas Road near Toronto. (*A. Fowler.*) Fort Erie, opposite Buffalo. (*David F. Day.*)

(1836.) **C.** AMBROSIOIDES, Linn.

Sparingly introduced in western Ontario. Roadsides, Stewarton, Ottawa. (*Fletcher.*) Common near Hamilton. (*Logie & Buchan.*) Malden near Amherstburgh. (*Maclagan.*) Rare at London. (*Saunders.*)

Var. ANTHELMINTICUM, Gray. Wormseed.

Chenopodium anthelminticum, Michx. Fl. I., 173.

On the shore of Lake Erie at Fort Erie. (*David F. Day.*)

(1837.) **C. glaucum,** Linn. Oak-leaved Goosefoot.

Blitum glaucum, Koch. Watson, Rev. Chenop. 101.

Introduced eastward but indigenous on saline soils throughout the prairie region. Waste places at Ottawa. (*Fletcher Fl. Ott.*) Vicinity of Toronto. (*Macoun.*) Neighborhood of Hamilton, Ont. (*Buchan.*) Common in the streets of Hamilton. (*Fletcher.*) Saline soil, Wood

End, Souris River, 49th parallel. (*Burgess.*) Very common on newly broken, saline soil from Winnipeg throughout the prairie region and across the Rocky Mountains on the line of Canadian Pacific Railway. (*Macoun.*) From Hudson Bay to Cumberland House and Fort Edmonton on the Saskatchewan. (*Drummond.*)

(1838.) **C.** Bonus-Henricus, Linn. Good-King-Henry.

Blitum Bonus-Henricus, C. A. Meyer. Gray, Man. 408, 1868. Macoun's Cat., No. 1486.

Occasionally introduced. Roadside, South Sydney, Cape Breton. (*Macoun.*) Waste places at Ottawa. (*Fletcher Fl. Ott.*) Vicinity of Hamilton. (*Buchan.*)

(1839.) **C. capitatum,** Benth. & Hook. Strawberry Blite.

Blitum capitatum, Linn. Gray, Man. 408, 1868. Macoun's Cat., No. 1484.

Common on sandy shores, in newly cleared lands and in river bottoms from the Atlantic to the Pacific and northward to Great Slave Lake and Alaska. Very common in the Rocky Mountains on the railway embankments.

(1840.) **C. rubrum,** Linn.

Blitum rubrum, Reich. Watson, Rev. Chenop., 99.
B. maritimum, Nutt. Bourgeau, Palliser's Rep. 260. Macoun's Cat., No. 1485.
B. polymorphum, C. A. Meyer. Macoun's Cat., No. 1487.

Newfoundland. (*Morrison.*) Rather infrequent on saline soil in the prairie region, but becoming more abundant as the land is broken up. Common at Broadview, Assiniboia. (*Macoun.*) Alkaline soil, Coteau de Missouri, 49th parallel. (*Burgess.*) About the Saskatchewan. (*Drummond.*) At Palliser in the Kicking Horse Valley, Rocky Mountains. (*Macoun.*) Straits of De Fuca, B.C. (*Scouler.*)

Var. **humile,** Moquin.

Chenopodium humile, Hook. Fl. II., 127. Macoun's Cat., No. 1480.
Blitum rubrum, Bourgeau, Palliser's Rep., 260.

On dried mud, borders of saline marshes and ponds throughout the prairie region, but not common. (*Macoun.*) Saline marshes along the Saskatchewan. (*Drummond.*)

507. ATRIPLEX, Linn. (ORACHE.)

(1841.) **A.** PATULA, Linn.

Specimens, which we take for the species, are almost smooth and bright green, with the cusps of the leaves erect. In every case introduced. This form is found around almost all towns and villages in Ontario.

Var. **hastata,** Gray.

A. laciniata, Pursh Fl. I., 199.
A. hastata, Linn. Matthew, Can. Nat. XII., 159.
Chenopodium rubrum, Hook. Fl. II., 127, in part.

On sands along the seashore and abundant on the margins of saline lakes in the prairie region. Shores of Anticosti, both an erect and decumbent form, also on sand beaches, North Sydney, Cape Breton. (*Macoun.*) Windsor, N.S. (*How.*) Halifax, N.S. (*Lawson.*) Several forms of this very variable species occur along the sea coast of New Brunswick. (*Fowler's Cat.*) Roadside in Montreal, 1821. (*Holmes.*) Hamilton, Ont. (*Buchan.*) Along the Welland Canal at Port Colborne. (*David F. Day.*) Very common on newly broken saline soil from Winnipeg to Laggan in the Rocky Mountains. The western form is very scurfy and stout but is often branching and decumbent amongst sand. Leaves very variable.

Var. **subspicata,** Watson.

A. angustifolia, Hook. Fl. II., 128, in part.
A. hastata, var. Bourgeau, Palliser's Rep. 260.

Borders of saline marshes in the Cypress Hills and northward along their base. (*Macoun.*) Saline marshes of the Saskatchewan.

Var. **littoralis,** Gray.

Atriplex littoralis, Bourgeau, Palliser's Rep. 260.

From New Brunswick and Canada to New York. (*Watson.*) Salt marshes and on ballast at Carleton, N.B. (*Hay.*) Common along the board fences and in waste places of the streets bordering on the Bay, Toronto. (*Macoun.*) Waste places at Hamilton, Ont. (*Buchan.*) Drew's Harbour, Vancouver Island. (*Dawson.*) Near Fort Wrangel, Sitka. (*Mechan.*)

(1842.) **A.** ROSEA, Linn.

Sparingly introduced near Halifax, N.S. (*Lawson.*)

(1843.) **A. Alaskensis,** Watson.

Shores of Queen Charlotte's Islands. (*Dawson.*) Barlow's Cove, Alaska. (*Dr. A. Kellogg.*)

(1844.) **A. zosteræfolia,** Watson.

Chenopodium (*?*) *zosteræfolium*, Hook. Fl. II., 127.

North-west Coast of America. (*Menzies.*) Straits of De Fuca, in salt marshes. (*Scouler.*) Drew's Harbor and Knox Harbor, B.C. (*Dawson.*)

(1845.) **A. Gmelini,** C. A. Meyer.

A. angustifolia, Hook. Fl. II., 128, in part.
(*?*) *A. littoralis*, Hook. Fl. II., 127. Rothr. Alask. 455.

Bay of Escholtz. (*Chamisso.*) Kotzebue Sound and Norton Sound. (*Rothr. Alask.*) Sitka and Kotzebue Sound. (*Bongard.*)

(1846.) **A. Endolepis,** Watson.

Endolepis Suckleyana, Torr. Macoun's Cat., No. 1501.

On clay slopes of the South Saskatchewan at the Elbow; also on clay banks of a creek east of Hand Hills. (*Macoun.*) Saline soil, Wood Mountain, 49th parallel. (*Dawson.*)

(1847.) **A. arenaria,** Nutt.

Obione arenaria, Matthew, Canad. Nat. XII., 159.

Sea coast of Nova Scotia. (*Watson.*) We have no other record of this species.

(1848.) **A. argentea,** Nutt.

Obione (*?*) *argentea*, Moq. Macoun's Cat., No. 1496.

Abundant on clay slopes of the South Saskatchewan at the Elbow, and doubtless common on arid clay far up that river. (*Macoun.*) Alkaline soil, White Mud River, 49th parallel, N.W.T. (*Dawson.*)

(1849.) **A. Nuttallii,** Watson.

A. canescens, Nutt. Hook. Fl. II., 128. Bourgeau, Palliser's Rep. 260.
Obione canescens, Moq. Macoun's Cat., No. 1495.

Very common on arid soil from Moose Jaw Creek to the Rocky Mountains. (*Macoun.*) Sterile soil, Wood Mountain, 49th parallel. (*Burgess.*) Verdigris Coulée, Milk River Ridge, N.W.T. (*Dawson.*) Abundant on dry gravelly slopes, Souris Plain, also along Maple Creek, north of Cypress Hills. (*J. M. Macoun.*) Salt marshes of the Saskatchewan and Slave River. (*Richardson.*)

508. EUROTIA, Adanson.

(1850.) **E. lanata,** Moquin.

Diotis lanata, Pursh Fl. II., 602.
Eurotia ceratoides Hook. Fl. II., 126. Bourgeau, Palliser's Rep. 260.

On the tops of dry hills, west and southwestward from Old Wives Lakes. (*Macoun.*) Plains of the Saskatchewan. (*Drummond.*) Clay soil, Short Creek and Côteau de Missouri, 49th parallel. (*Burgess.*) Walsh Station on the Canadian Pacific Railway. (*J. M. Macoun.*) Verdigris Coulée, Milk River Ridge, N.W.T. (*Dawson.*)

509. CORISPERMUM, Linn.

(1851.) **C. hyssopifolium,** Linn.

Lake Erie shore above Fort Erie. (*David F. Day.*) On the shore of Lake Huron at Goderich. (*Burgess.*) Abundant on a sand beach, a little west of Port Colborne, Ont. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*) Sandy shore, Lake of the Woods. (*Dawson.*) Sandy banks of the Red, Saskatchewan and Athabasca rivers. (*Douglas & Drummond.*) Great Slave Lake. (*Richardson.*) Sandy banks along the South Saskatchewan and Red Deer rivers, N.W.T. (*Macoun.*) Point Barrow to the Mackenzie River. (*Rothr. Alask.*)

510. SALICORNIA, Linn. (GLASSWORT.)

(1852.) **S. mucronata,** Bigel.

S. Virginica, Moquin. Proc. Nov. Scot. Inst., Vol. IV., Pt. II., 206.

On the sea coast from Nova Scotia southward. (*Watson.*) Sea coast at Halifax, N.S. (*Sommers.*)

(1853.) **S. herbacea,** Linn.

S. Virginica, Linn. Pursh Fl. II.
S. herbacea, var. *prostrata,* Bourgeau, Palliser's Rep. 260.

Salt marshes west side of Anticosti, and generally around the coast of Nova Scotia, Cape Breton Island and New Brunswick. Very abundant on the margins of saline lakes throughout the prairie region.

(1854.) **S. ambigua,** Michx.

S. radicans, Hook. Fl. II., 126.
S. fruticosa, var. *ambigua,* Macoun's Cat., No. 1492.

Straits of De Fuca, Northwest America. (*Scouler.*) Vancouver Island near Victoria. (*H. L. Jones.*) Muddy flat near Victoria, B.C. (*Fletcher.*) Drew's Harbor, B.C. (*Dawson.*)

511. SUÆDA, Forsk. (SEA BLITE.)

(1855.) **S. linearis,** Torr. var. **ramosa,** Watson.

Salsola salsa, Michx. Fl. I., 174. Pursh Fl. I., 197.
Chenopodium maritimum, Pursh Fl. I., 198. Hook. Fl. II., 126 (?).
Chenopodina maritima, Gray, Man., 366, 1858.
Suæda maritima, Proc. Nov. Scot. Inst., Vol. IV., Pt. II., 206. Macoun's Cat., No. 1498.

On sea beaches at the mouth of Becscie River, Anticosti. (*Macoun.*) On the sea coast from the mouth of the St. Lawrence southward. (*Watson.*) Seashore at Bedford, N.S. (*Lawson.*) Beaches at Pictou, N.S. (*McKay.*) Salt marshes on the coast of New Brunswick. (*Fowler's Cat.*)

(1856.) **S. depressa,** Watson.

Salsola depressa, Pursh Fl. I., 197.
Chenopodina calceoliforme, Hook. Fl. II., 126.
C. prostrata, Bourgeau, Palliser's Rep. 260.

In salt marshes and around the borders of brackish ponds and lakes throughout the prairie region. (*Macoun.*) About Fort Carlton. (*Drummond.*) Borders of alkaline ponds, Milk River, 49th parallel. (*Burgess.*) Chinaman's Ranche and other places above Spence's Bridge, B.C. (*Fletcher.*)

Var. **erecta,** Watson.

S. maritima, Porter, Fl. Col., 118.

Bordering many saline lakes and ponds and in marshes throughout the prairie region. (*Macoun.*) Saline soil, Coteau de Missouri, 49th parallel. (*Burgess.*) Salt marshes, Swift Current Creek and Old Wives Lakes, N.W.T. (*J. M. Macoun.*) Chilcoten River and dry interior of British Columbia. (*Dawson.*) Chinaman's Ranche and other places above Spence's Bridge, B.C. (*Fletcher.*)

512. SALSOLA, Linn. (SALTWORT.)

(1857.) **S. Kali,** Linn.

S. Caroliniana, Michx. Fl. I., 174.

Along the sea-coast on sand or gravel bars. On Sydney Bar, near North Sydney, Cape Breton. (*Macoun & Harrington.*) Seashore at Pictou, N.S., and the Magdalen Islands, Gulf of St. Lawrence. (*McKay.*) Halifax Harbor and Cow Bay near Dartmouth, N.S. (*How & Lindsay.*) Common along the seashores of New Brunswick. (*Fowler's Cat.*)

513. SARCOBATUS, Nees. (GREASE WOOD.)

(1858.) **S. vermiculatus,** Torrey.

Batis (?) vermiculata, Hook. Fl. II., 128.
Fremontia vermicularis, Lond. Journ. Bot. IV., 481.

Rather uncommon on arid clay flats in company with *Cactus* in the southwestern part of the prairie region. Porcupine Creek and westward but not to the Rocky Mountains, also near Wood Mountain, 49th parallel. (*Dawson.*) Alkaline soil, Coteau de Missouri, N.W.T. (*Burgess.*) Arid soil along Cottonwood Creek, Cypress Hills, also on the plain north of the hills near Island Lake, and abundant at the west end of Rush Lake, N.W.T. (*Macoun.*)

514. CYCLOLOMA, Moquin. (WINGED PIG-WEED.)

(1859.) **C.** PLATYPHYLLUM, Moq.

Salsola platiphylla, Michx. Fl. I., 174.

Sandy roadsides, along several streets in the north-west part of the City of London, Ont. Fully established and spreading. An importation from the west. (*Burgess.*)

LXXXIII. PHYTOLACCACEÆ. POKEWEED FAMILY.

515. PHYTOLACCA, Linn. (POKEWEED.)

(1860.) **P. decandra,** Linn. Pigeon Berry, Garget.

On sandy soil and waste places. It is often a conspicuous weed around Lake Erie. On the roadside between Castleton and Norham, Northum-

berland Co., Ont., also in the vicinity of Niagara Falls. (*Macoun.*) Vicinity of Brockville and Prescott. (*Billings.*) Roadside near Stony Creek, Hamilton, Ont. (*Logie.*) Port Rowan. (*Buchan.*) Chippewa and Malden. (*Maclagan.*) Along Port Stanley Railway near the town. (*Saunders & Burgess.*) Pelee Point, Lake Erie, rather common amongst sand. (*J. M. Macoun.*) Vicinity of Toronto. (*A. Fowler.*)

LXXXIV. POLYGONACEÆ. Buckwheat Family.

516. ERICONUM, Michx.

(1861.) **E. flavum,** Nutt.

E. sericeum, Pursh Fl. I., 277.
E. crassifolium, Hook. Fl. II., 134. Dawson, Bound. Rep. 372.

Found chiefly on the slopes of gravelly hills and ridges in the prairie region. Fort Carlton on the Saskatchewan. (*Richardson.*) From the mouth of Qu'Appelle River westward to Morley, on gravel ridges. (*Macoun.*) Gravelly hill-side, Wood End, Souris River, 49th parallel, and on ridges along Belly River. (*Dawson.*) Dry slopes, Souris Plain, and on sides of coulées, Cypress Hills. (*J. M. Macoun.*) Rocky Mountains. (*Bourgeau.*)

(1862.) **E. androsaceum,** Benth.

E. cæspitosum, Hook. Fl. II., 134.

Rocky Mountains of British America. (*Watson.*) On dry limestone slopes, Bow River Pass, also on the summits of Canmore and Castle Mountains in the Rocky Mountains, Lat. 51°. (*Macoun.*) Alpine spots among the Rocky Mountains, at an elevation of 10,000 feet. Lat. 52°–56°. (*Drummond.*) Rocky Mountains. (*Bourgeau.*) A small tufted species with the habit of a *Primula* or *Androsace.* (*Hooker.*)

(1863.) **E. umbellatum,** Torrey.

South Kootanie Pass, and western summit of North Kootanie Pass, Rocky Mountains; also Coldwater River, B.C. (*Dawson.*)

(1864.) **E. heracleoides,** Nutt.

On mountain slopes above Spence's Bridge, B.C. (*Macoun.*) Gravelly slopes, Nicola Valley, B.C. (*Dawson.*) Not uncommon from Spence's Bridge to Kamloops, B.C. (*Fletcher.*)

(1865.) **E. ovalifolium,** Nutt.

Slopes in the South Kootanie Pass, 49th parallel. (*Dawson.*) Northward to British Columbia. (*Watson.*)

(1866.) **E. multiceps,** Nees.

Eriogonum, No. III. Dawson, Bound. Rep., 373.
Eriogonum, No. IV. Dawson, Bound. Rep., 373.

Gravelly soil, Coteau de Missouri, 49th parallel. (*Burgess.*) Wood Mountain, 49th parallel. (*Dawson.*)

517. KOENIGIA, Linn.

(1867.) **K. Islandica,** Linn.

North Bluff, Upper Savage Islands, and Mansfield Island, Hudson's Strait. (*R. Bell.*) Moist mountains north of Smoky River, Lat. 54°. (*Drummond.*) Bay of Escholtz. (*Chamisso.*)

518. POLYGONUM, Linn. (KNOTWEED.)

(1868.) **P. Paronychia,** Cham. & Schlecht.

Sea-coast of Vancouver Island, near Victoria, B.C. (*Fletcher.*) Sands of the seashore of straits of De Fuca. (*Menzies.*)

(1869.) **P. aviculare,** Linn. Knotgrass, Door-weed.

Very abundant around dwellings as an introduced weed, but indigenous in various forms westward, or all the strictly native forms may be included in the next. Wherever the smallest settlement is made this species and *Capsella Bursa-pastoris* are sure to appear. It extends from the Atlantic to the Pacific and north to the Arctic Circle and Alaska. South of the arctic circle in Greenland. (*Hook. Arct. Pl.*)

(1870.) **P. erectum,** Linn.

P. aviculare, var. *erectum*, Gray, Man. 417, 1868.

Roadsides and in waste places about towns in Ontario; quite common along the trails and where the ground is cultivated in the North-west. Waste places around London, Ont. (*Burgess.*) Common in the streets of Hamilton, Ont. (*Buchan.*) Forms approaching this were collected at Toronto, Sarnia and at Port Arthur in Ontario, while in the North-west it extends to Silver City in the Rocky Mountains. Along the Canadian Pacific Railway at Walsh Station. (*J. M. Macoun.*) Coulée at the West Butte, 49th parallel. (*Dawson.*)

(1871.) **P. minimum,** Watson.

Slopes of the South Kootanie Pass, 49th parallel. (*Dawson.*)

(1872.) **P. maritimum,** Linn. Coast Knotgrass.

P. aviculare, var. *littorale,* Gray, Man. 374, 1856.

Coast of Anticosti at Jupiter River and at North Sydney, Cape Breton. (*Macoun.*) On Amherst and Grindstone Islands, Magdalen Islands, Gulf of St. Lawrence. (*McKay & J. Richardson.*) Sea-shore at Arisaig, N.S. (*McKay.*) Sandy sea-shore at Halifax, N.S. (*Sommers.*) Sandy sea-shore at Bass River, Kent Co., N.B. (*Fowler's Cat.*) Sandy shore, Bic, River St. Lawrence, Q. (*Pringle.*) On sand along the Penticate River, Q. (*St. Cyr.*)

(1873.) **P. ramosissimum,** Michx.

Sandy shores or dessicated places, principally westward. Sandy shores, Manitoulin Island and Parry Sound, Ont. (*Burgess.*) Mouth of Mississaugi River, growing in crevices of rocks. (*J. Bell.*) Washow Bay and other points on Lake Winnipeg. (*J. M. Macoun.*) Abundant from Winnipeg to the Rocky Mountains, especially on the margins of dried up pools. (*Macoun.*) South Fork of Old Man River, Rocky Mountains. (*Dawson.*) Sparingly in the Columbia Valley at Donald, B.C. (*Macoun.*)

(1874.) **P. tenue,** Michx.

On sandy or rocky places from Ontario to the Pacific. Rocky bank of St. Lawrence, two miles west of Brockville. (*Billings.*) Crevices of rocks, Kingston Mills. (*Maclagan.*) Crevices of Laurentian rocks at Shannonville, Hastings Co. (*Macoun.*) Amongst rocks, Muskoka, Ont. (*Burgess.*) Lake of the Woods, and in the Foot Hills of the Rocky Mountains. (*Dawson.*) Crevices of rocks, Rat Portage; also occasionally in the prairie region to the Rocky Mountains. (*Macoun*) Occurs rather frequently on the Souris Plain. (*J. M. Macoun.*) Saskatchewan region. (*Bourgeau.*) On gravel and sand, Thompson River, B.C. (*Hill.*) Lytton, Spence's Bridge and Kamloops, B.C. (*Fletcher.*)

Var. **latifolium,** Engelm.

Upper part of South Kootanie Pass, 49th parallel. 1883. (*Dawson.*)

(1875.) **P. coarctatum,** Dougl.

Northward to British Columbia. (*Watson.*) Prairies at Nasqually Bay, North-west coast. (*Tolmie.*)

Var. **minus,** Meisn.

Arctic America. (*Franklin vide Watson.*)

(1876.) **P. imbricatum,** Nutt.

On dry gravelly places where water stands in the spring. Abundant east of the Hand Hills, and on the Cypress Hills near the eastern end. (*Macoun.*)

(1877.) **P. articulatum,** Willd.

In sandy, barren fields, Canada. (*Pursh.*) Rather common on sand at Point Aux Pins, eight miles above the Sault Ste. Marie. (*Macoun.*) About the Saskatchewan. (*Drummond & Richardson.*) North Shore of Lake Superior. (*Agassiz.*)

(1878.) **P. nodosum,** Persoon.

Shore of Gull Island, Lake Nipigon, Ont.; also growing on mud at the mouth of Beaver Creek, Columbia Valley, B.C. (*Macoun.*) Rupert House, James Bay; and shore of Muskeg Island, Lake Winnipeg. (*J. M. Macoun.*) On alluvial soil at Port Moody, B.C. (*Hill.*)

(1879.) **P. incarnatum,** Ell.

P. nodosum, var. *incarnatum*, Gray, Man., 372, 1856.
P. lapathifolium, Cat. Holmes Herb., 16.

Wet borders of streams, especially on alluvium. Local but abundant when found. Strait of Canso, Guysboro' Co., N.S. (*Ball.*) At Keswick and Moncton, N.B. (*Fowler's Cat.*) Abundant about the suburbs of Montreal, 1821. (*Holmes.*) Waste places common at Prescott. (*Billings.*) Abundant at Hull and other places around Ottawa. (*Fletcher Fl. Ott.*) Very common along the Bay of Quinte and on flats along the River Moira at Belleville, also common in cultivated fields, Seymour West, Northumberland Co., Ont., and along the shores of islands in Lake Nipigon. (*Macoun.*) Vicinity of Hamilton. (*Logie & Buchan.*) Not uncommon, along the borders of creeks, at London. (*Saunders & Burgess.*)

(1880.) **P. Pennsylvanicum,** Linn.

Moist soil; usually in ditches or depressions in pastures. Windsor, N.S. (*How.*) Vicinity of Shediac, N.B. (*Fowler's Cat.*) Moist soil at Beauport, near Quebec, (*St. Cyr.*) Mouth of River St. Pierre and other places near Montreal, 1821. (*Holmes.*) Very common at Ottawa in low rich soil, and at Casselman on the Canada Atlantic, forty miles from Ottawa. (*Fletcher Fl. Ott.*) Common

around Prescott. (*Billings.*) In ditches along the G. T. Railway, five miles below Shannonville Station, also along the Salmon River, three miles above the Railway Bridge. (*Macoun.*) Vicinity of Toronto. (*A. Fowler.*) Low grounds around Hamilton. (*Logie & Buchan.*) Niagara District and at Malden. (*Maclagan.*) Common at London and Windsor, Ont. (*Saunders & Burgess.*)

(1881.) **P. lapathifolium,** Ait. var. **incanum,** Koch.

P. lapathifolium, var. *lanatum,* Bourgeau, Palliser's Rep. 259.

Apparently introduced eastward, but indigenous from Ontario westward. On ballast heaps, Pictou, N.S.; margins of pools and lakelets, south of Battleford and at the Red Deer lakes. (*Macoun.*) Saskatchewan region. (*Bourgeau.*)

(1882.) **P. amphibium,** Linn. Water Persicaria.

P. amphibium, var. *aquaticum,* Gray, Man., 416, 1868.
P. coccineum, Muhl. Cat. Holmes Herb., 16.

In ponds and slow flowing water extending from Quebec and Ontario westward across the continent to the Pacific. Swamp, St. Denis Street, Montreal, 1821. (*Holmes.*) Quite common throughout Ontario and in nearly all the fresh water ponds in the prairie region and interior of British Columbia.

(1883.) **P. Muhlenbergii,** Watson.

P. amphibium, var. *terrestre,* Gray, Man. 416, 1868.
P. amphibium, var. *β.* Bourgeau, Palliser's Rep. 259.
P. amphibium, var. *terrestre,* Macoun's Cat. No. 1509, in part.

In ditches and on the borders of ponds at London, Ont. (*Burgess.*) Abundant in dried up pools and on the margins of small brooks in the prairie region from Moose Jaw Creek westward to Morley. (*Macoun.*) Along Belly River, near Fort McLeod. (*Dawson.*) Shallow water, Côteau de Missouri, 49th parallel. (*Burgess.*) Saskatchewan region. (*Bourgeau.*) Rather common in the Columbia Valley at Donald, B.C. (*Macoun.*)

(1884.) **P. Hartwrightii,** Gray.

P. amphibium, var. *terrestre* of Canadian Botanists.
P. coccineum, var. *terrestre,* Cat. Holmes Herb., 16.

Distinguished from *P. amphibium* by its foliaceous and ciliate sheaths, on the other hand *P. Muhlenbergii* is without ciliate sheaths but is rough with appressed hairs all over. This species is chiefly found around ponds and in mud on the margins of lakes. In marshes at Salt Lake and Becscie River, Anticosti, (*Macoun.*) Along the

Ottawa and Rideau rivers near Ottawa, also Nation River at Casselman, (*Fletcher Fl. Ott.*) Boucherville Island near Montreal, 1821. (*Holmes.*) Moist ground north of the Junction Freight Shed, Prescott, Ont. (*Billings.*) Shore of the Bay of Quinte at Zwick's Island, near Belleville, swamp between Bridgewater and Flinton, Hastings Co.; also at head of the marsh, Owen Sound Bay. (*Macoun.*) Vicinity of York Factory, Hudson Bay. (*R. Bell.*) Wet places around Hamilton. (*Buchan.*) Point Abino, Lake Erie. (*Judge Clinton.*)

(1885.) **P.** PERSICARIA, Linn. Lady's Thumb.

Very common in waste places around dwellings and low rich cultivated soils. Extensively naturalized and spreading with settlements to all parts of the country both in Manitoba and British Columbia.

(1886.) **P.** HYDROPIPER, Linn. Smart-weed.

P. mite, Ell. Cat. Holmes Herb. 16.

In ditches by roadsides, and on roads in woods eastward and apparently introduced, but westward it is found on the margins of lakes, ponds and rivers where settlement has never taken place. It is easily distinguished from the next by its triangular, black and shining *achenium*.

(1887.) **P. acre,** HBK. Water Smartweed.

P. hydropiperoides, Pursh. Fl. I., 270.

Wet places, principally in small brooks in woods. Small brooks near Ottawa. (*Fletcher Fl. Ott.*) Abundant along Conway's Creek near Prescott. (*Billings.*) In a ditch a little north of the paper mill, Belleville, also in a brook between Trenton and Belleville. (*Macoun.*) Wet places around Hamilton. (*Logie & Buchan.*) In shallow water, Parry Sound and Muskoka, Ont. (*Burgess.*) Vicinity of London. (*Saunders.*)

(1888.) **P. hydropiperoides,** Michx. Mild Water-pepper.

P. mite, Pers. Pursh, Fl. I., 270.

In flowing water or where it is constantly wet. Bloomfield, King's Co., N.B. (*Brittain.*) Very common at Montreal, 1821. (*Holmes.*) Common in ditches and brooks around Ottawa and at Casselman on the Nation River. (*Fletcher Fl. Ott.*) Marshy banks of the Nation River at the crossing of the St. Lawrence and Ottawa Railway. (*Billings.*) Common in ditches at Belleville, Ont. (*Macoun.*) Malden near Amherstburgh, Ont. (*Maclagan.*) Vicinity of Hamilton, Ont. (*Buchan.*) Shallow water at London. (*Burgess.*) Very abundant in ditches at Port Colborne, Ont. (*Macoun.*)

(1889.) **P. Careyi,** Olney.

Wet sandy shore, in shade, mouth of Moose River, Muskoka, Ont. (*Burgess.*)

(1890.) **P. ORIENTALE,** Linn. Prince's Feather.

A weed in many gardens at Belleville and in the Counties of Hastings and Prince Edward, Ont. (*Macoun.*) Gardens and waste heaps at Ottawa. (*Fletcher Fl. Ott.*) Waste places at Toronto and London, Ont. (*Burgess.*)

(1891.) **P. Bistorta,** Linn.

P. bistortoides, Pursh. Fl. II., 271.

Arctic sea coast. (*Richardson.*) Kotzebue Sound to Point Barrow and northern coast. (*Rothr. Alask.*)

(1892.) **P. viviparum,** Linn. Alpine Bistort.

Quite common on cold, boggy points along lakes in the northern parts of Canada. Mouth of Eel River, N. B. (*Fletcher.*) Very abundant along the coast of Anticosti, especially in boggy places at the mouths of rivers; exposed points along the Gaspé coast from Cape Rosier to Matane, also on Mount Albert, Shickshock Mountains, Gaspé; mouth of the Pic River, and on St. Ignace Island, and in boggy places, Red Rock, Lake Superior, also on Livingston Point, Lake Nipigon. (*Macoun.*) On the St. Lawrence at Bic. (*Pringle.*) Ford's Harbour, coast of Labrador; Cape Chudleigh, Cape Prince of Wales, Nottingham and Mansfield Islands, Hudson Strait; also mouth of Churchill River, Hudson Bay. (*R. Bell.*) Swampy ground in the Rocky Mountains. (*Drummond.*) Foot Hills of the Rocky Mountains, and eastern summit of the North Kootanie Pass: also along Eliguc Lake, B.C. (*Dawson.*) In swampy places at the confluence of the Peace and Nation Rivers, northern British Columbia, and on Mount Selwyn, in the Peace River Pass; also very abundant throughout the whole Rocky Mountain region in Lat. 51°. (*Macoun.*) Rocky Mountains. (*Bourgeau.*) Common along the Arctic coast and islands. (*Richardson.*) West coast of America, from Observatory Inlet to Alaska. (*Hooker.*) Sitka and Ounalashka, and along the coast generally. (*Rothr. Alask.*) Kenashow Islands, Alaska. (*Meehan.*) Lake Lindeman, source of the Youcan River, lat. 60°. (*Schwatka.*)

(1893.) **P. polymorphum,** Ledeb.

P. alpinum, Hook, Fl. II., 131.

From the British boundary to Alaska. (*Bot. Calif.*) Kotzebue Sound. (*Chamisso.*) Arctic sea-coast. (*Richardson.*) Kotzebue Sound and Fort Youcon. (*Rothr. Alask.*) Plover Bay, Alaska. (*M. Dale.*)

(1894.) **P. Virginianum,** Linn.

Thickets in rich soil; near Pictou, N.S. (*McKay.*) (?) Boucherville Island, near Montreal, 1821. (*Holmes.*) Malden and islands in Detroit River. (*Maclagan.*) Shaded gravelly river flat, London, Ont. (*Burgess.*) Creek three miles north of London. (*Saunders.*) Red Creek, near Hamilton, Ont. (*Buchan.*)

(1895.) **P. arifolium,** Linn. Halberd-leaved Tear-thumb.

Low grounds, not common; vicinity of Halifax, N.S. (*Lyndsay.*) (?) Low grounds, Kouchibouguac, N.B. (*Fowlers Cat.*) Hopedale, N.B. (*Brittain.*) Common at Rivière-du-Loup, Q. (*Thomas.*) Swamps near Ottawa. (*Fletcher, Fl. Ott.*) Vicinity of Hamilton. (*Logie and Buchan.*) Low grounds, Chippewa, Ont. (*Maclagan.*)

(1896.) **P. sagittatum,** Linn. Arrow-leaved Tear-thumb.

Low grounds and swamps, rather common, from Newfoundland, Nova Scotia, New Brunswick, throughout Quebec and Ontario to the Saskatchewan. It seems to be more abundant in beaver meadows in northern Ontario than anywhere else.

(1897.) **P.** Convolvulus, Linn. Black Bindweed.

A naturalized weed in cultivated fields extending from the Atlantic to the Pacific. This species is frequently a great nuisance in potato-fields, often covering many square yards of the surface. It has already become a vile weed in Manitoba, and Mr. Fletcher makes the same report from British Columbia.

(1898.) **P. cilinode,** Michx.

Very abundant in sandy pine-woods and other suitable localities from Nova Scotia and New Brunswick, through Quebec and Ontario, and northward to Hudson Bay and west to Lesser Slave Lake, near Peace River.

(1899.) **P. dumetorum,** Linn. Var. **scandens,** Gray. Climbing False Buckwheat.

P. dumetorum, Linn. Gray, Man. 375, 1856.
P. scandens, Pursh, Fl. I., 273. Cat. Holmes Herb. 16.

Rather uncommon, climbing over shrubs in low rich soil, mostly in river bottoms. Near Halifax, N.S. (*Sommers.*) Near Pictou, N.S. (*McKay.*) In damp thickets climbing over bushes 8–12 feet high. Norton, N.B. (*Fowler's Cat.*) Along the banks of the Rivière-du-Loup, Que. (*Thomas.*) Near Hallowell's, Montreal, 1821. (*Holmes.*) At March near Ottawa. (*Fletcher Fl. Ott.*) Beaver meadows, North Hastings, and

along brooks, Oak Hills, South Hastings, Ont. (*Macoun.*) Vicinity of Hamilton. (*Buchan.*) Near St. Thomas. (*Miss Kate Crooks.*) St. Catherines, Niagara and Malden. (*Maclagan.*) Thickets at Kingston, Ont., and at Port Stanley, on Lake Erie. (*Burgess.*) Borders of a creek half a mile west of London, Ont. (*Saunders.*) North shore of Lake Superior. (*Agassiz.*) Climbing over bushes at the Qu'Appelle Lakes, N.W.T. (*J. M. Macoun.*) Forming almost impenetrable thickets near the source of the Qu'Appelle, at Swift Current Creek, and at the eastern end of the Cypress Hills, N.W.T. (*Macoun.*) Winnipeg and North-West Angle Road, also Turtle Mountain, 49th parallel. (*Dawson.*)

(1900.) **P.** TARTARICUM, Linn. Rough Buckwheat.

In cultivated and waste grounds; escaped from cultivation. Cultivated and waste grounds, N.B. (*Fowler's Cat.*)

519. FAGOPYRUM, Gœrtn. (BUCKWHEAT.)

(1901.) **F.** ESCULENTUM, Moench.

Polygonum Fagopyrum, Pursh, Fl. I., 273.

Adventitious in cultivated fields, on waste heaps, by roadsides, and in the neighbourhood of towns and villages from Nova Scotia throughout Canada where there are settlements.

520. OXYRIA, Hill. (MOUNTAIN SORRELL.)

(1902.) **O. digyna,** Campdera.

O. reniformis, Hook, Fl. II., 129.
Rumex digynus, Pursh. Fl. I. 248.

On high mountains or exposed shores in the north. Summit of Mount Albert, Shickshock Mountains, Gaspé, Que. (*Macoun.*) Labrador. (*Morrison.*) Nachvak, coast of Labrador, Port Burwell (Cape Chudleigh), Cape Prince of Wales, Nottingham and Digge's Islands off Cape Wolstenholme, Hudson Straits. (*R. Bell.*) Common in the Rocky Mountains and on the Arctic sea-shores. (*Richardson & Drummond.*) Rocky Mountains 6,000 feet altitude, 49th parallel, also eastern summit of North Kootanie Pass. (*Dawson.*) On high mountains in the Bow River and Kicking Horse Passes, and on Mount Selwyn in the Peace River Pass, also common in the Selkirk Mountains, B. C. (*Macoun.*) Rocky Mountains. (*Bourgeau.*) Islands of Sitka, Ounalashka and St. Lawrence, Kotzebue Sound, Cape Lisburne and the Arctic coast. (*Rothr. Alask.*)

521. RUMEX, Linn. (DOCK. SORRELL.)

(1903.) **R. venosus,** Pursh. Fl. II., 733.

On sand hills and banks around the sources of the Qu'Appelle, and on sand hills north of the Cypress Hills. (*Macoun.*) In stream valleys in the Cypress Hills and at Swift Current Creek, N. W. T. (*J. M. Macoun.*) Bank of stream south of Wood Mountain, 49th parallel. (*Dawson & Millman.*) Near Fort Carlton, on the Saskatchewan. (*Richardson.*)

(1904.) **R. occidentalis,** Watson. Proced. Am. Acad. XII., 253.

R. longifolius, D.C. Gray's B.A. 420. Macoun's Cat. No. 1537.
R. domesticus, Hartm. Roths. Alask. 453.
R. domesticus, Hartm. Hook. Fl. II., 129.
R. domesticus, Hartm. Bourgeau, Palliser's Rep., 259.

From Alaska to the Saskatchewan and Labrador. (*Watson.*) Swampy ground, Salt Lake, Anticosti. (*Macoun.*) In a marshy place at a mill pond near Campbellton, N.B. (*Chalmers.*) Eastern shores of Lake Nipigon, Ont.; western shores of Lake Winnipegoosis; Hand Hills and Cypress Hills, N.W.T. (*Macoun.*) Around Moose Mountain Lake, N.W.T. (*J. M. Macoun.*) Saskatchewan region. (*Bourgeau.*) Marshy ground at Fort Churchill, Hudson Bay. (*R. Bell.*) Bartlett Bay, Alaska. (*Meehan.*) Sitka, Ounalashka and Kotzebue Sound to Wainwright Inlet. (*Rothr. Alask.*) Marshes of the Saskatchewan to the Rocky Mountains and northward to the Arctic sea. (*Richardson & Drummond.*) Rather common in swampy meadows from Morley westward to the summit of the Rockies. (*Macoun.*)

(1905.) **R.** PATIENTIA, Linn.

Adventitious at Belleville, but apparently fully established in the vicinity of Kingston, Ont. (*Macoun.*)

(1906.) **R. orbiculatus,** Gray.

R. Hydrolopathum, Huds. Var. (*?*) *Americanum,* Gray.
R. Brittanica aquaticus (?) Pursh. Fl. I., 248.
R. Brittanicus, Cat. Holmes Herb. 16.
R. acutus, Linn. (?) Hooker Fl. II., 130,
R. sanguineus, Linn. Hook. Fl. II., 130, in part.

In marshes, swamps, beaver meadows and river bottoms rather common. In wet places, Kent Co., N.B. (*Fowler's Cat.*) In marshes, quite abundant, at Campbellton, N.B. (*Chalmers.*) Abundant on flats along the Bay of Chaleur, and less common along the Gaspé coast.

(*Macoun.*) Gregory's meadows, Montreal, 1821. (*Holmes.*) By the side of the River Rouge, near Silver Mountain, Ottawa Co., Q. (*D'Urban.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Conway's Creek and wet places, rare, near Prescott, Ont. (*Billings.*) Very abundant in swamps and grassy places in all parts of Ontario west to Owen Sound, and also at the Sault Ste. Marie and ten miles up the Kaministiquia west of Lake Superior. (*Macoun.*) Vicinity of Hamilton. (*Logie and Buchan.*) Islands in Detroit River. (*Maclagan.*) Shallow water, London, Ont. (*Burgess.*) Woody places and barren country beyond lat. 64°. (*Richardson.*)

(1907.) **R. salicifolius,** Weinmann. White Dock.

Newfoundland. (*Miss Brenton.*) New Mills, Campbellton, N.B. (*Chalmers.*) Shore of Richibucto River, N.B. (*Fowler's Cat.*) Isle St. Charles, Mingan, Q. (*St. Cyr.*) Coast of Gaspé above Point Fame; also along Colpoy's Bay, Bruce Peninsula; shore of St. Ignace at the fishing stations, and Red Rock, Lake Superior, also on the shore of Lake Nipigon; very common around salt ponds throughout the prairie region to Silver City in the Rocky Mountains. (*Macoun.*) Saline soil, Fort Garry, Man., 1873. (*Burgess.*) Selkirk, Man., and around salt ponds Souris Plain. (*J. M. Macoun.*) Saskatchewan region. (*Bourgeau.*) Lake Winnipeg to Great Bear Lake and Mackenzie River. (*Richardson.*) Garnett's Ranche, Old Man River, foot-hills of Rocky Mountains. (*Dawson.*) Sitka. (*Rothr. Alask.*) Bartlett Bay, Alaska. (*Meehan.*)

(1908.) **R. verticillatus,** Linn. Swamp Dock.

Wet swamps and ditches. Near Pictou, N.S. (?) (*McKay.*) Lachine Road, near Montreal. (*Holmes.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Along the banks of streams inland and northward from Prescott, Ont.; common. (*Billings.*) Belœil Mountain, Q., and Malden, Ont. (*Maclagan.*) In ditches and along rivers and small streams throughout central Ontario. (*Macoun.*) Ditches vicinity of Hamilton. (*Buchan.*) Swampy places, London, and on Point Pelee, Essex Co., Ont. (*Burgess.*)

(1909.) **R.** CRISPUS, Linn. Curled Dock.

Thoroughly established in cultivated fields, ditches and by roadsides from Nova Scotia and New Brunswick westward to Manitoba, and sparingly in British Columbia.

(1910.) **R.** OBTUSIFOLIUS, L. Bitter Dock.

Naturalized about towns and cities, but very seldom seen in fields. Halifax, N. S. (*Lawson.*) Tabusintac, on the Bathurst Road, N.B.

(*Fowler's Cat.*) Germain Brook, King's Co., N.B. (*Brittain.*) Environs of Quebec. (*St. Cyr.*) Ditch near Beaver Hall, Montreal, 1821. (*Holmes.*) In waste places around Ottawa, rare. (*Fletcher Fl. Ott.*) Waste lots, Belleville, Ont., also at Castleton, Sarnia and Owen Sound; very common at the Sault Ste. Marie. (*Macoun.*) East of Hamilton, Ont. (*Buchan.*) Borders of fields; common, London, Ont. (*Burgess.*)

(1911.) **R.** SANGUINEUS, Linn. Bloody-veined Dock.

Sparingly introduced in Ontario, but apparently plentiful in parts of Nova Scotia. Three-mile House, near Halifax, N.S. (*Lawson.*) Abundant at Digby, Annapolis, and Yarmouth, N.S. (*Macoun.*) Common at Rivière-du-Loup, Q. (*Thomas.*) Port Stanley Railway track two miles from London, Ont. (*Saunders.*)

(1912.) **R. maritimus,** Linn. Golden Dock.

R. persicarioides, Linn. Hook. Fl. II., 130.

Shore, near the mouth of Molus River, and at Shediac, N. B. (*Fowler's Cat.*) Green's Creek, six miles from Ottawa. (*Fletcher Fl. Ott.*) Along a ditch leading from the distillery at Belleville to the Bay of Quinte, Ont. Very common in marshes and on the borders of saline ponds throughout the prairie region to Silver City in the Rocky Mountains. (*Macoun.*) At Selkirk and numerous points on Lake Winnipeg; saline ponds Souris Plain. (*J. M. Macoun.*) Marshes at Pincher Creek, foot-hills of Rocky Mountains. (*Dawson.*) Plains of the Saskatchewan to the Rocky Mountains, also shore of Hudson Bay. (*Drummond.*) Saskatchewan region. (*Bourgeau.*)

(1913.) **R.** ACETOSA, Linn. Common Sorrell.

Newfoundland. (*Miss Brenton.*) Introduced with lawn grass at Belleville and Toronto, and well established; abundant at Point-aux-Pins, above Sault Ste. Marie. (*Macoun.*) Waste places; very rare at London, Ont. (*Burgess.*) Quite common at Victoria, V. I. (*Fletcher.*)

(1914.) **R. pauciflorus,** Nutt.

R. Acetosa, Linn. Hook. Fl. II., 129 in part. Rothr. Alask., 453.
R. Engelmanni var. (?) Geyeri. DC. Prodro. XIV., 64.

Prairies of the Rocky Mountains, lat 52°–56°. (*Drummond.*) Eastern summit of North Kootanie Pass, Rocky Mountains; shores of Qualcho Lake, B. C. (*Dawson.*) Rather common on grassy slopes between Morley Station and Bow River, foot-hills of Rocky Mountains. In wet meadows along the Telegraph Trail, B.C., Lat. 54°. (*Macoun.*) Kotzebue Sound. (*Rothr. Alask.*)

(1915.) **R. Acetosella,** Linn.

Abundant in sandy and barren soils from Newfoundland, Nova Scotia and New Brunswick westward to the Pacific. This species seems to be both native and introduced, especially eastward. In Ontario it is certainly indigenous, and very abundant in the pine districts.

LXXXV. ARISTOLOCHIACEÆ. Birthwort Family.

522. ASARUM, Linn. (WILD GINGER.)

(1916.) **A. Canadense,** Linn.

Rich woods amongst leaves and dead wood. Common in Ontario. Abundant on the upper St. John, St. Francis, and Salmon rivers, Queen's Co., also on Eel River, and at Fredericton, Queensbury, Morrison's Mills, and in rich woods about Andover, and Darling's Island, N.B. (*Fowler's Cat.*) Montreal mountain, Papineau woods, and other places at Montreal, 1821. (*Holmes.*) In a few low places along the River Rouge, Ottawa Co., Q. (*D'Urban.*) Island of Orleans, Quebec. (*Thomas.*) Sillery, Quebec, Nicolet and St. Anne, Champlain Co., Q. (*St. Cyr.*) Eastern Townships and Belœil Mountain, Q. (*Maclagan.*) Very common in rich woods around Ottawa. (*Fletcher Fl. Ott.*) Common in rich woods at Prescott, Ont. (*Billings.*) Kingston, Niagara and Malden. (*Maclagan.*) Rich woods from Kingston west to Cobourg, and north to Madoc and Peterboro'; also in woods at Owen Sound. (*Macoun.*) Mountain side west of Hamilton, common. (*Logie & Buchan.*) Common in rich woods at London. (*Burgess.*) Rich woods some miles up the Kaministiquia, west of Lake Superior. (*Macoun.*) Rich wooded hillsides, Pembina Mountain, Man., 49th parallel. (*Dawson & Burgess.*) Throughout Canada to the Saskatchewan. (*Richardson.*)

(1917.) **A. caudatum,** Lindl.

A. Canadense, Var. β. Hook. Fl. II., 139.

In rich woods on the lower slopes of the Cascade Mountains at Yale, B.C. (*Macoun.*) Abundant in shady pine woods, among moss, on the north-west coast. (*Douglas.*) Yale and Spuzzum, and along the Goldstream, 12 miles from Victoria, B. C. (*Fletcher.*)

LXXXVI. PIPERACEÆ. Pepper Family.

523. SAURURUS, Linn. (LIZARD'S TAIL.)

(1918.) **S. cernuus,** Linn.

Rather local in Ontario, but abundant where found. Growing in great profusion in mud along the Nation River at Casselman on the Canada Atlantic Railway, 40 miles from Ottawa. (*Macoun & Fletcher.*) On Charles Island, above Niagara Falls. (*Burgess.*) Muddy places, Chippewa and Malden. (*Maclagan.*) Mud flats at the mouth of the Bayfield river, below Goderich, Lake Huron. (*John Gibson.*)

LXXXVII. LAURINEÆ. Laurel Family.

524. SASSAFRAS, Nees. (SASSAFRAS.)

(1919.) **S. officinale,** Nees.

Laurus Sassafras, Linn. Pursh. Fl. I., 277.

In thickets as small shrubs at the mouth of the Humber, Toronto; abundant in the forest around Queenston Heights and becoming twenty inches in diameter; evidently common all along Lake Erie in the forest back from the lake; abundant at Pelee Point, Essex Co. (*Macoun.*) At Ancaster and on Prince's Island, also in East Flamboro', between the Waterdown Road and Burlington Bay. (*Logie & Buchan.*) Common in the Niagara district. (*Maclagan.*) At the Whirlpool, Niagara Falls, and Point Abino, Lake Erie. (*David F. Day.*) Sandy woods near Toronto and Mount Pleasant, Brant Co., Ont. (*Burgess.*)

525. LINDERA, Thunb. (WILD ALLSPICE.)

(1920.) **L. Benzoin,** Meisner. Spice Bush.

Benzoin odoriferum, Nees. Hook. Fl. II., 137.
Laurus Benzoin, Linn. Pursh. Fl. I., 276.
L. Pseudo-Benzoin, Michaux Fl. I., 243.

In boggy ground along the base of the hills four miles north of Trenton; also around springs in numerous places, Quaker Valley, near Wooler, and half a mile north of Colborne on the road to Castleton, Northumberland Co., Ont.; forming a small tree in the woods around Queenston Heights and on Pelee Point, Essex Co., Ont.; also in low woods, Royston Park, Owen Sound. (*Macoun.*) The Dell, Ancaster, near Hamilton. (*Logie & Buchan.*) Chippewa and Malden. (*Maclagan.*) Low woods, near London, Ont. (*Burgess.*) English's Woods and elsewhere near London. (*Saunders.*)

LXXXVIII. THYMELÆACEÆ. Mezereum Family.

526. DAPHNE, Linn. (MEZEREUM.)

(1921.) **D.** Mezereum, Linn.

Established on Montreal Mountain, where it has existed for many years. There are two old bushes, one with white, the other with the ordinary lilac flower. A few fine healthy shrubs, which produce both flowers and fruit, have been discovered within the last two years in McKay's woods, near Ottawa, by Mrs. Chamberlin and James Fletcher. They are far from any home, in the thick woods and there is no record of the *Daphne* having been cultivated by any person in the neighborhood.

527. DIRCA, Linn. (LEATHER-WOOD. MOOSE-WOOD.)

(1922.) **D. palustris,** Linn.

Common, in rich and rocky woods in many parts of Ontario and Quebec. Keswick Ridge, N.B. (*G. H. Burnett.*) Hillsborough, N.B. (*Brittain.*) Montreal Mountain, 1821. (*Holmes.*) Ste. Anne, Champlain Co., and in woods at Nicolet, Q. (*St. Cyr.*) Abundant in woods on all soils, Ottawa Co., Q. (*D'Urban.*) Vicinity of Montreal, also at St. Valentin, Q., and at Niagara, Ont. (*Maclagan.*) Very abundant in all low woods around Ottawa. (*Fletcher Fl. Ott.*) Woods and thickets, very common at Prescott, Ont. (*Billings.*) Rich woods throughout Northumberland Co., very rare in Hastings Co., but abundant at Owen Sound and Queenston. (*Macoun.*) Sulphur Spring, Ancaster, and other localities near Hamilton. (*Logie.*) Carlisle, western Ontario. (*Buchan.*)

LXXXIX. ELÆAGNACEÆ. Oleaster Family.

528. ELÆAGNUS, Linn. (SILVER BERRY.)

(1923.) **E. argentea,** Pursh.

Abundant on the Isle of Orleans, especially on a low rocky and sandy point, between Grande Anse and Anse à Maranda. (*St. Cyr.*) Very abundant west of Manitoba throughout the whole prairie

region, and extending far into the Rocky Mountains, and south to the boundary, being found where, owing to the fires, no other wood exists. On trap rocks, east side of Lake Nipigon. From Winnipeg to Silver City in the Rocky Mountains, north to Lat. 56°, in the Peace River Pass, and down that river to near Lake Athabasca. (*Macoun.*) Thickets along the 49th parallel from the Red River to Rocky Mountains, growing where no other shrubs are seen. (*Dawson.*) Spence's Bridge, B.C. (*Fletcher.*) From the Grand Rapids of the Saskatchewan to the Rocky Mountains, and north to Lat. 69°, near the arctic coast. (*Richardson & Drummond.*) James Bay and up the Missinaibi River. (*J. M. Macoun.*) Hudson Bay. (*Nuttall*, vide *Hooker.*) Eastern British America, north of arctic circle. (*Hook. Arct. Pl.*)

529. SHEPHERDIA, Nutt. (SHEPHERDIA.)

(1924.) **S. Canadensis,** Nutt. Canadian Shepherdia.

Hippophæ Canadensis, Willd. Pursh, Fl. I., 115.

On rocky hillsides and gravelly river banks, widely distributed but seldom locally abundant. Narrows, Tobique River, N.B. (*Hay.*) Clinging to rocky banks at Grand Falls, St. John, and at Cape Bon Ami, Restigouche, N.B. (*Fowler's Cat.*) River Lachevrotière, Portneuf Co., Isle of Orleans and Mingan Islands, and eastward along the St. Lawrence. (*St. Cyr.*) Along the St. Lawrence at Quebec; also at Jones' Falls, near Kingston, and Malden, Lake Erie. (*Maclagan.*) On gravelly and rocky banks near Ottawa. (*Fletcher Fl. Ott.*) Rocky banks of St. Lawrence west of Brockville. (*Billings.*) On gravelly banks at Carleton Place, Casselman and Hull, near Ottawa; common along the dry rocky banks of the Moira and Trent, Ont., and on the Mountain Portage, Kakabeka Falls, west of Lake Superior, also on the east side of Lake Nipigon. (*Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*) Various places along the Niagara River and Lake Erie. (*David F. Day.*) Sandy or rocky banks, Kingston, London, Niagara Falls and Southampton, Ont. (*Burgess.*) East side of La Cloche Island, Georgian Bay. (*J. Bell.*) Grindstone Point and other places on Lake Winnipeg. (*J. M. Macoun.*) Cypress Hills and Kootanie Pass, 49th parallel. (*Dawson.*) Cypress Hills near Fort Walsh, and on the steep slopes at the Hand Hills, Red Deer River; on gravelly slopes near Green Lake, 150 miles north of Carlton; also on the banks of Peace River at Dunvegan, on the Parsnip north of Fort McLeod, and on gravel along the Fraser at Quesnelle, B.C. (*Macoun.*) Mount Finlayson and other places on Vancouver Island. Called "Soop-

oo-lalie" by the Indians who make a drink from the berries. (*Fletcher.*) Thoroughout Canada to Fort Franklin on the Mackenzie River, and from Newfoundland and Hudson Bay to the Rocky Mountains. (*Richardson & Drummond.*) Eastern British America, north of arctic circle. (*Hook. Arct. Pl.*)

(1925.) **S. argentea,** Nutt. Buffalo-Berry.

Hippophæ argentea, Pursh, Fl. I., 115.

On the Saskatchewan between Carlton and Edmonton. (*Drummond.*) On small hillocks at Manitoba House, Lake Manitoba, on clay banks of the Assiniboine above the mouth of the Souris; also in great profusion in the valley of the South Saskatchewan, from the Elbow to the mouth of Swift Current Creek and up its valley; in the valley of the Red Deer River at the Hand Hills, forming dense thickets. (*Macoun.*) White Mud River west of Wood Mountain, 49th parallel. (*Dawson.*)

XC. LORANTHACEÆ. Mistletoe Family.

530. ARCEUTHOBIUM, Bieb.

(1926.) **A. Americanum,** Nutt. American Mistletoe.

A. Oxycedri, Bieb. Macoun's Cat., No. 1561.
A. Oxycedri, Bieb. Hook. Fl. I., 278, in part.

Parasitic on *Pinus Banksiana,* about 100 miles north of Fort Carlton, on the trail to Green Lake. (*Macoun.*) On *Pinus contorta* (*Murrayana*) in the Rocky Mountains, and thence eastward to Lat. 57°. (*Drummond & Douglas.*) Parasitic on *Pinus Murrayana,* Elk River, Kootanie valley, Rocky Mountains; also between Similkameen and Nicola, and on the same species of tree between the Blackwater River and Quesnele, B.C. On *Pinus contorta* at Victoria, Vancouver Island. Often very abundant during certain seasons and in others scarcely seen. (*Dawson.*)

(1927.) **A. robustum,** Engelm.

A. Oxycedri, Bieb. Hook. Fl. I., 278, in part.

On *Pinus ponderosa,* Kootanie valley, near Columbia Lakes, 1883. (*Dawson.*) On *Pinus ponderosa,* west side of the Rocky Mountains. (*Douglas.*) Sir William Hooker, in his *Flora Boreali Americana,* figures both species, but the first as the male plant and the second as the fertile one. Douglas believed his specimens represented two species, but Sir William thought differently.

XCI. SANTALACEÆ. Sandal-wood Family.

531. COMANDRA, Nutt. (BASTARD TOAD-FLAX.)

(1928.) **C. umbellata,** Nutt.

Thesium umbellatum, Linn. Pursh, Fl. I., 177.
T. corymbulosum, Michx. Fl. I., 112.

In meadows and dry grassy woods, and thickets. On a piece of dry ground near Sydney Mines, Cape Breton. (*Macoun.*) Lake St. Peter, below Montreal. (*Maclagan.*) At Tadousac, Pointe des Monts and Mingan Islands, River St. Lawrence. (*St. Cyr.*) Rockcliffe and King's Mountain, near Ottawa. (*Fletcher Fl. Ott.*) Pine grove south of the Junction, and abundant at the Grand Trunk gravel pit, Prescott, Ont. (*Billings.*) Dry rocky banks and sandy plains, quite common in central Ontario, and at Owen Sound. (*Macoun.*) Mountain top near the Albion Mills, Hamilton, Ont. (*Logie & Buchan.*) Navy Island, Niagara River and Malden. (*Maclagan.*) French Creek, below Fort Erie, Ont. (*David F. Day.*) Dry soil, London, Ont., and at Emerson, Man. (*Burgess.*) Near Two Heart River, Georgian Bay. (*J. Bell.*) Abundant at Fort Garry and on the North-west Angle road, also at Emerson on the Red River, 49th parallel. (*Dawson.*) Common throughout the prairie region, north of Lat. 51° and west to the Rocky Mountains. (*Macoun.*) From Lake Huron to the Saskatchewan and thence to the Rocky Mountains. (*Drummond & Richardson.*)

(1929.) **C. pallida,** A. DC.

In some abundance on the southern prairie, on dry soil. Prairie near Turtle Mountain and westward on the 49th parallel; also Milk River Ridge. (*Dawson.*) Old Wives Lakes, N.W.T. (*J. M. Macoun.*) On clay soil at the western end of the Cypress Hills and westward to Morley; also at Spence's Bridge, B.C. (*Macoun.*) On slopes of the Nicola valley, B C. (*Dawson.*) From Lytton to Kamloops, B.C. (*Fletcher.*)

(1930.) **C. livida,** Richardson.

Cold bogs, and on mountain tops, in the south, and on exposed shores in the north. Newfoundland and Labrador. (*Morrison & Brenton.*) In a peat bog at Kingston, N.S., and peat bog, Sydney Mines, Cape Breton; also abundant on the coast of Anticosti, in bogs. (*Macoun.*) Near St. John, N.B. (*Fowler's Cat.*) Port Elgin, Albert Co., N.B. (*Brittain.*) Peat bogs, Ste. Anne des Monts River, Gaspé, also bogs on top of

Mount Albert, Shickshock Mountains, Gaspé. (*Macoun.*) Not common at Rivière du Loup, Q. (*Thomas.*) At Tadousac, Pointe des Monts, St. Lawrence River, Q. (*St. Cyr.*) Kamouraska, Q., and at Southampton on the shore of Lake Huron. (*Burgess.*) North shore of Lake Superior. (*Agassiz.*) Peat bog, Lake Mistassini, North-east Territory. (*J. Richardson.*) Peat bogs, White River, north of Lake Superior; common in peat bogs from Port Arthur to Red Rock, and in bogs on the east coast of Lake Nipigon; Red Deer River, Lat. 53°, and in bogs around the Duck and Porcupine Mountains; in the Rocky Mountains from Morley westward to Eagle Pass on the Canadian Pacific Railway. In peat bogs in the interior of northern British Columbia. (*Macoun.*) From Lake Winnipeg to the Rocky Mountains and to Lat. 69° near the Arctic Sea. (*Richardson & Drummond.*) Eastern British America, north of arctic circle. (*Hook. Arct. Pl.*) Dean or Salmon River, B.C. (*Dawson.*)

XCII. EUPHORBIACEÆ. Spurge Family.

532. EUPHORBIA, Linn. (SPURGE.)

(1931.) **E. polygonifolia,** Linn. Shore Spurge.

Sandy shores of the sea and of the Great Lakes. Indian Cove, Pictou, N.S. (*McKay.*) Sydney, Cape Breton. (*W. H. Harrington.*) In sand on Kouchibouguac beach, N.S. (*Fowler's Cat.*) On Wellington beach, Prince Edward Co., Ont.; on the sands of Presqu'ile Point, near Brighton, and on the beach between the Union station, Toronto, and the Humber; Lake Erie shore on Point Pelee, and Port Colborne. (*Macoun.*) On Burlington Beach near Hamilton. (*Logie & Buchan.*) Lake Erie shore at Malden. (*Maclagan.*) Lake shore near Fort Erie, Ont. (*David F. Day.*) Sandy shore, Port Stanley, Lake Erie, Ont. (*Burgess.*) On sand beaches at Point Edward, Lake Huron, and Pelee Point, Lake Erie. (*J. M. Macoun.*)

(1932.) **E. serpens,** HBK.

E. herniarioides, Nutt. Gray, Man., 386, 1858.

Waste places and garden walks, London, Ont. (*Burgess.*) This is possibly an introduction from farther south, but is quite plentiful in potato fields at Windsor, Ont. (*Macoun.*)

(1933.) **E. serpyllifolia,** Pers.

From the Columbia River eastward to the Saskatchewan. (*Watson.*) Dry plains west of Moose Mountain, N.W.T., 1880. (*Macoun.*)

(1934.) **E. glyptosperma,** Engelm.

E. polygonifolia, Hook. Fl. II., 140, in part.

Abundant on dry gravelly soil at Belleville, and in numerous other places along the Bay of Quinte, likewise in cultivated fields and along the Grand Trunk Railway mixed with *E. maculata.* (*Macoun.*) Gravelly roadside, London, Ont., and on saline soil, Wood Mountain, 49th parallel. (*Burgess.*) South of Wood Mountain, on a dry clay bank. (*Dawson.*) Abundant at Fort Walsh, Cypress Hills and numerous other localities north-westward to the Hand Hills, also at the Red Deer Lakes, in sand. (*Macoun.*) At Fort Carlton on the Saskatchewan. (*Drummond.*) On dry soil along the Thompson River at Spence's Bridge, B.C. (*Hill.*)

(1935.) **E. maculata,** Linn.

E. thymifolia, Willd. Pursh, Fl. I., 606.
E. hypericifolia, Linn. Hook. Fl. II., 140, in part.

Abundant along railways, on waste places and in cultivated fields throughout Ontario. Seldom collected. Abundant on waste places and in fields around Ottawa. (*Fletcher Fl. Ott.*) Common around Prescott. (*Billings.*) Common at Kingston, Niagara and Malden, Ont. (*Maclagan.*) Very abundant at Belleville, and along the whole line of the Grand Trunk Railway, westward to Toronto. (*Macoun.*) Old fields and railway tracks, London, Ont. (*Burgess.*) Canada to the Saskatchewan. (*Richardson.*)

(1936.) **E. corollata,** Linn.

On dry sandy soil, western Ontario. Vicinity of Hamilton, Ont. (*Logie.*) Sandwich, Ont., also islands in Detroit River. (*Maclagan.*) Common on sand at Point Edward, near Sarnia. (*Macoun.*) Sandy soil, Sarnia, and at the Rondeau, Lake Erie. (*Burgess.*) On sand at Point Pelee, Lake Erie. (*J. M. Macoun.*) Sand dunes along Aux Sables River, shore of Lake Huron. (*John Gibson.*)

(1937.) **E.** PLATYPHYLLA, Linn.

Scarcely naturalized, but becoming more frequent in Ontario. Along the Great Lakes and the St. Lawrence to Lake Champlain. (*Gray.*) Roadsides, common at Prescott. (*Billings.*) Abundant at Queenston and Niagara town. (*Macoun.*) Roadsides at St. Catharines, common. (*Saunders.*) Waste places along the Niagara River at the falls. (*Burgess.*) Stony Creek, near Hamilton, Ont. (*Buchan.*) Lake shore near Fort Erie, Ont. (*David F. Day.*) Lake Huron. (*Dr. Todd.*) Norway House at the foot of Lake Winnipeg. (*Richardson.*)

(1938.) **E. obtusata,** Pursh.

Near Quebec. (*Mrs. Shepherd.*) Canada. (*Drummond.*) Vicinity of Hamilton, Ont. (*Buchan.*)? Having never seen this species, we are doubtful of its occurrence, and believe the above references belong to *E. platyphylla.*

(1939.) **E.** HELIOSCOPIA, Linn. Sun Spurge.

Abundant in the streets of towns and cities and around ruined buildings, completely naturalized. Very abundant amongst the ruins of Louisburg, Cape Breton, also at Yarmouth, N.S. (*Macoun.*) In the streets of Pictou, N.S. (*McKay.*) River Charlo, and at Buctouche, N.B. (*Fowler's Cat.*) At Quebec and Sheldrake River, Q. (*St. Cyr.*) Common in fields along the Gaspé coast. (*Macoun.*) Common in the streets of Montreal, 1821. (*Holmes.*) Very common around Rivière du Loup, Q. (*Thomas.*) On waste heaps around Ottawa. (*Fletcher Fl. Ott.*) Roadsides, at Prescott, Ont., common. (*Billings.*) Common in nearly all the cities, towns and villages of Ontario. (*Macoun.*) Vicinity of Hamilton. (*Buchan.*) Lake shore near Fort Erie, Ont. (*David F. Day.*) Waste places, Niagara Falls, and railway track at Essex Centre, Ont. (*Burgess.*)

(1940.) **E.** CYPARISSIAS, Linn.

Escaped from gardens and becoming firmly established wherever it can gain the slightest foothold. Escaped from gardens at Halifax. (*Lawson.*) Along roadsides at Annapolis, and on the Blomidon road, N.S. (*Macoun.*) Sparingly escaped from gardens at Pictou, N.S. (*McKay.*) Roadside at Nashwaak, N.B. (*Vroom.*) On waste heaps and by garden fences at Ottawa. (*Fletcher Fl. Ott.*) By garden fences in and around Belleville, Picton, and Trenton, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*) Sandy waste places at London, Ont. (*Burgess.*)

(1941.) **E.** PEPLUS, Linn.

Not common but appearing every year in gardens and flower beds in some localities. In the streets of Pictou, N.S., rather rare. (*McKay.*) Spontaneous in gardens at Richibucto, N.B. (*Fowler's Cat.*) A weed in gardens at Chipman, N.B. (*Wetmore.*) Along the Ottawa at Green's Creek. (*Fletcher.*) In several localities at Belleville, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*)

(1942.) **E. commutata,** Engelm. (?)

Specimens referred here were collected on Laurentian rocks at Shanonville, Hasting Co., Ont., in June, 1867, and again in 1871. The

specimens were evidently persistent from the preceding year, although not perennial. The seeds have one deep groove on the back, are pitted all over and twice as large as those of *E. Peplus.*

(1943.) **E. hypericifolia,** Linn.

Waterdown Road, near Hamilton, Ont. (*Buchan.*)

533. MERCURIALIS, Linn. (DOG'S MERCURY.)

(1944.) **M.** ANNUA, Linn.

Abundant on waste or ballast heaps at Pictou, N.S., also more sparingly at North Sydney, Cape Breton. (*Macoun & Burgess.*)

534. ACALYPHA, Linn. (THREE-SEEDED MERCURY.)

(1945.) **A. Virginica,** Linn.

A. Caroliniana, Cat., Holmes Herb., 16.

Abundant in river bottoms and in low damp cultivated fields. Common on low grounds at Montreal. (*Holmes.*) Abundant on low grounds around Ottawa. (*Fletcher Fl. Ott.*) Ditches and low fields at Prescott, Ont. (*Billings.*) Very common on flats along the Nation River at Casselman, Russell Co., Ont., and in fields and low boggy grounds at Belleville, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie & Buchan.*) Sandy shore, Hamilton, Ont. (*Millman.*) Very common in the western part of Ontario. (*Maclagan.*)

XCIII. URTICACEÆ. NETTLE FAMILY.

535. ULMUS, Linn. (ELMS.)

(1946.) **U. fulva,** Michx. Slippery or Red Elm.

U. rubra, Michaux f. N. American Sylva, Vol. II., 221, 1819.

Ste. Anne, Champlain Co., and Nicolet, Q. (*St. Cyr.*) This tree is chiefly confined to the valley of the St. Lawrence from the Island of Orleans westward to the Georgian Bay. Its usual habitat is

rather low rocky woods, but it is found in fence corners in all clearings. Around Ottawa it seldom attains the height of 60 feet, but westward it becomes larger and on the Niagara peninsula is much taller and increases considerably in diameter. It is easily distinguished from its allies by its wide branching habit.

(1947.) **U. Americana,** Linn. American Elm.

U. Americana, var. *pendula*, Ait. Pursh, Fl. I., 200.

The White or American Elm delights in low, humid and rich soils, and the better the soil, the larger the tree. This tree has a very wide distribution, being found on the low intervale lands of Cape Breton, Nova Scotia, and New Brunswick. In Quebec it becomes more plentiful, and in the valley of the St. Lawrence and throughout Ontario it is very abundant. West of Toronto and in the whole district bordering on Lakes Erie and Huron it grows to an enormous size, attaining a greater height and girth than any other Canadian tree, except the pine. West of Lake Huron, it retires again to the low alluvial soil in river bottoms, and is found in the valley of the Red River from Pembina to Lake Winnipeg. It ascends the Assiniboine to its source. It passes by the way of lakes Manitoba and Winnipegoosis to Red Deer River, which flows into the last named lake, where it ceases to grow in Lat. 53°. (*Macoun.*) On the Saskatchewan, it ascends to near Cumberland House in Lat. 54° 30′, where Mr. A. S. Cochrane observed a number of good sized trees. It occurs at the head waters of all the principal branches of the Moose River, and on one of them, the Missinaibi, found an outlier within 120 miles of James Bay. On the Kenogami it extends to a point about half-way from Long Lake to the Albany. (*R. Bell.*) At Lake Waswanapy, North-east Territory. (*J. M. Macoun.*)

(1948.) **U. racemosa,** Thomas. Rock Elm.

U. Americana, Planchon. De Candolle, Prodr. XVII., 155, in part.

Rather rare in the Eastern Townships, Quebec, and extending westward throughout Ontario in the limestone areas. This tree seems to be confined to dry gravelly soils and is usually associated with sugar maple in such localities. It was formerly very common and large quantities were cut down, squared and exported, but owing to the destruction of maple woods it is now found chiefly as second growth along roadsides and borders of fields.

536. CELTIS, Linn. (NETTLE TREE.)

(1949.) **C. occidentalis,** Linn. Sugar-berry.

C. crassifolia, Pursh, Fl. I., 200.
C. pumila, Pursh, Fl. I., 200.
C. alba, De Candolle, Prodr. XVII., 177.
C. Mississippiensis, Bosc. Gray, Man., 443, 1868.
C. longifolia, De Candolle, Prodr. XVII., 177.

Without exception, this tree has the most remarkable distribution of any in the Dominion. A few grown trees here and there being all that are usually found, in the same locality. St. Helen's Island, Montreal. (*Maclagan.*) Northward from Prescott on the tributaries of the Ottawa. (*Billings.*) A few trees along the Rideau above Billings' Bridge, and one or two small ones at Malloch's Bay and Brittania on the Ottawa. (*Fletcher Fl. Ott.*) About a dozen well grown trees in the valley of Salmon River, north of the Grand Trunk Railway, near Shannonville; a few shrubs along the Moira River at Belleville; also rather common between Queenston and Niagara, and sparingly westward along Lake Erie, common on Pelee Point. (*Macoun.*) River flats at London, Ont. (*Burgess.*) Vicinity of Rat Portage, Lake of the Woods. (*R. Bell.*)

537. HUMULUS, Linn. (HOP.)

(1950.) **H. Lupulus,** Linn. Wild Hop.

In its wild state this species is always found in river bottoms. Cultivated in New Brunswick. Scarcely wild. (*Fowler's Cat.*) In the environs of Pictou, N.S. (*McKay.*) North shore of Lake Superior. (*Agassiz.*) Very abundant in the valley of the Kaministiqua, seven miles above Fort William, Lake Superior; common in the valleys of the Red, Assiniboine and Qu'Appelle rivers, and in the valleys of the Swan and Red Deer rivers entering Lake Winnipegoosis, northern limit about Lat. 53°. (*Macoun.*) River banks in thickets, Turtle Mountains, Man. (*Burgess.*) Lake of the Woods, and at Emerson, Red River valley. (*Dawson.*)

538. CANNABIS, Linn. (HEMP.)

(1951.) **C.** SATIVA, Linn. Hemp.

Adventitious from Europe but scarcely established anywhere. Spontaneous in a few places at Richibucto, N.B. (*Fowler's Cat.*) Near Taborville Bridge, King's Co., N.B. (*Brittain.*) More or less common in or about all the towns and villages of Quebec and Ontario.

539. MORUS, Linn. (MULBERRY.)

(1952.) **M. rubra,** Linn.

M. rubra, var. *Canadensis,* Loudon, Arboretum III., 1360.

Rich woods throughout the forest bordering on Lake Erie. uncommon from Niagara town along the river to the Whirlpool; c mon on Pelee Island, and frequent in the woods at Amherstburgh west to Windsor. (*Macoun.*) One young tree noticed near the wat edge below Niagara Falls. (*David F. Day.*) Sandy soil, Leaming Essex Co., Ont. (*Burgess.*)

(1953.) **M.** ALBUS, Linn. White Mulberry.

Cultivated and occasionally wild from Niagara Falls (*Macoun*), the sandy wastes near Sarnia, Ont. (*Burgess.*)

540. URTICA, Linn. (NETTLE.)

(1954.) **U. gracilis,** Ait. Common Nettle.

U. dioica, Michx. Fl. II., 112, in part.
U. procera, Willd. Pursh. Fl. I., 113.
U. dioica, L. Hook. Arct. Pl.

Not uncommon in rich soil on the borders of woods, along fen around dwellings, and in river bottoms, from Nova Scotia and N Brunswick westward to Morley at the base of the Rocky Mounta Specimens collected in the far east are identical with western o From Lake Huron to the Saskatchewan and throughout the woo country on the east of the Rocky Mountains, as far north as F Franklin on the Mackenzie River. (*Richardson.*)

(1955.) **U.** DIOICA, Linn. Stinging Nettle.

Naturalized in many places in the older settlements, Pictou, N (*McKay.*) Along the railway at Bedford Basin, N.S. (*Macoun.*) ballast at St. John, N.B. (*Hay.*) Naturalized in a few places, Ga Basin, Q. Ferry Point, Belleville, Ont., and at Stone Mills, Ba Quinte; also at Port Stanley, Lake Erie. (*Macoun.*)

(1956.) **U. Lyallii,** Watson. Western Nettle.

Occasionally met with in Beaver Creek valley and other places the Selkirk mountains, B.C. (*Macoun.*) On Vancouver Island, E (*Lyall & Fletcher.*) Abundant about old Indian villages and camp places, Vancouver Island. (*Dawson.*)

(1957.) **U. holosericea,** Nutt. (?)

U. dioica, var. *occidentalis,* Watson, Bot. King, Exp. 321.

On damp soil in stream valleys, South Kootanie Pass, Rocky Mountains. (*Dawson.*)

(1958.) **U.** URENS, Linn.

On ballast heaps and waste places eastward. Ballast heaps and waste ground at North and South Sydney, Cape Breton, and on ballast at Pictou, N.S. (*Macoun & Burgess.*) Bass River, N.B. (*Fowler's Cat.*) Ballast heaps, St. John, N.B. (*Hay.*) St. Andrew's, N.B. (*Vroom.*) Magdalen Islands, Gulf of St. Lawrence. (*McKay.*) Newfoundland. (*Miss Brenton.*)

541. LAPORTÆA, Gaudich. (WOOD-NETTLE.)

(1959.) **L. Canadensis,** Gaudich.

Urtica Canadensis, Linn. Michx. Fl. II., 178. Hook. Fl. II., 141.
U. divaricata, Willd. Pursh, Fl. I., 113.
U. Canadensis, β. minor, Hook. Fl. II., 141.

Low moist woods, especially in river or brook valleys, from Nova Scotia to Lake Huron. Stream valley at Whycocogmah, Cape Breton. (*Macoun.*) Rich intervales, Kouchibouguac, Bass River, N.B. (*Fowler's Cat.*) Norton, N.B. (*Hay.*) Ste. Anne, Champlain Co., and in woods at Nicolet, Q. (*St. Cyr.*) Abundant from Quebec westward to the Sault Ste. Marie.

542. PILEA, Lindl. (CLEARWEED.)

(1960.) **P. pumila,** Gray. Richweed.

Urtica pumila, Linn. Michx. Fl. II., 178. Hook. Fl. II., 141.

In boggy ground around springs and in marshy places. Odell's Grove at Fredericton, and Norton, N.B. (*Fowler's Cat.*) Petitcodiac and Havelock, N.B. (*Brittain.*) A troublesome weed on grounds of C. E. Grosvenor at Canterbury, N.B. (*Hay.*) In western Quebec it is quite common, and in Ontario to the Georgian Bay.

543. BŒHMERIA, Jacq. (FALSE NETTLE.)

(1961.) **B. cylindrica,** Willd.

Urtica cylindrica, Linn. Michx. Fl. II., 179.
U. capitata, Willd. Pursh, Fl. I., 113.
B. cylindrica, var. *β.* Hook. Fl. II., 142.

Low moist thickets and in river bottoms throughout Ontario. Abundant on low grounds at the mouth of the Gatineau and at Hull, Q. (*Fletcher, Fl. Ott.*)

544. PARIETARIA, Linn. (PELLITORY.)

(1962.) **P. Pennsylvanica,** Muhl. American Pellitory.

Usually in crevices of limestone rocks in ravines. Crevices of rocks, Heely Falls, east side, Northumberland Co., Ont. (*Macoun*) On the lower part of Pelee Point, Essex Co., Ont. (*Burgess.*) Crevices of rocks, Cypress Hills, N.W.T.; Pembina River at the crossing 50 miles north-west of Edmonton, N.W.T., and at Fort St. James, and Fort McLeod, northern British Columbia. (*Macoun.*) Crevices of rocks, Elk River, Kootanie valley, Rocky Mountains. (*Dawson.*)

XCIV. PLATANACEÆ. Plane-tree Family.

545. PLATANUS, Linn. (BUTTON-WOOD.)

(1963.) **P. occidentalis,** Linn.

This very large and magnificent tree seems to have its eastern limit in the valley of the Don at Toronto, from thence it becomes more plentiful and increases in size, and at Hamilton and all through the western peninsula of Ontario, in low damp woods it becomes a conspicuous forest tree. It seems to prefer river bottoms but in the low country between St. Thomas and Amherstburgh, it is particularly common.

XCV. JUGLANDEÆ. Walnut Family.

546. CARYA, Nutt. (HICKORY.)

(1964.) **C. alba,** Nutt. Shell-bark Hickory.

Juglans squamosa, Michx. N. American Sylva, Vol. I., 181, 1819.
J. alba, Michx. Fl. II., 193.
C. microcarpa, Nutt. Gray, Man., 448, 1868.

A few trees on the bank of the Nation River at Casselman, thirty miles south east of Ottawa, also at Deschenes Rapids on the Ottawa. (*Fletcher.*) The above record is the only notice of this tree, outside of the valley of the St. Lawrence River, except a few trees in rear of Montreal Mountain, until Kingston is passed. It is abundant on both sides of the Bay of Quinte and ascends the Salmon, Moira and Trent Rivers, the latter to four miles above Campbellford. Westward from the Trent it is found more inland, but always on river banks until the meridian of Toronto, is reached, when it is found mixed with other trees in the forest. On the Niagara peninsula, especially at Queenston Heights and the Falls, it constitutes the greater part of the forest, and along Lake Erie with other hickories, attains its largest size often rising with a straight stem to 80 feet and generally overtopping the other trees. Along Lake St. Clair it is still abundant and probably reaches Goderich on Lake Huron.

(1965.) **C. tomentosa,** Nutt. White Heart Hickory.

Juglans tomentosa, Michx. Fl. II., 192.

Rather sparingly distributed amongst the other hickories in the Niagara peninsula from Lake Ontario to Lake Erie, and extending westward to Windsor and an indefinite distance beyond.

(1966.) **C. porcina,** Nutt. Pig-nut or Broom Hickory.

C. glabra, Torr. Gray, Man., 403, 1858.
Juglans porcina, Michx. N. American Sylva. II., 194, 1819.
J. porcina, var. *obcordata,* Pursh, Fl. I., 638.
J. porcina, var. *pisiformis,* Pursh, Fl. I., 638.

Not uncommon on the Niagara peninsula, where large trees are quite frequent in the low woods extending out from the base of Queenston Heights; also abundant in Wesley Park, Niagara Falls, and at many points along Lake Erie to Amherstburgh and north to Windsor and Sarnia.

(1967.) **C. amara,** Nutt. Bitter-nut Hickory.

Juglans amara, Michx. N. American Sylva, II., 170, 1819.

On islands at the mouth of the Nicolet River, Q. (*St. Cyr.*) Abundant in wet woods and low damp places in fields and along roadsides from the neighborhood of Montreal westward through Ontario. It is quite common on the Quebec side of the river at Ottawa, and extends for a considerable distance up the Gatineau. Proceeding westward, it becomes a much finer tree and is a prominent species on the whole western peninsula up to the Georgian Bay.

547. JUGLANS, Linn. (WALNUT.)

(1968.) **J. cinerea,** Linn. Butternut.

This is a widely spread and beautiful species extending from southern New Brunswick throughout Quebec and Ontario to the Georgian Bay. Whether by the roadside, in the field or forest, it is a beautiful object and its wide spreading branches give a grateful shelter to both man and beast when oppressed by the mid-day heat of a summer's day.

(1969.) **J. nigra,** Linn. Black Walnut.

The distribution of this tree is limited to that part of Ontario, west of Toronto, where it might have been called the king of the forest thirty years ago. At present, very few of the old trees remain, but visitors to Niagara Falls may still see a number of magnificent ones in that vicinity, though these are little over a century old. There is no reason why this tree should not be planted wherever the butternut is indigenous, as they grow side by side at Belleville and Ottawa, and the black walnut makes the more vigorous growth. In the district bordering on Lake Erie it is still a plentiful tree and south of St. Thomas, many of the old fences are largely composed of black walnut rails, while the stumps are still conspicuous objects in the fields.

XCVI. MYRICACEÆ. SWEET-GALE FAMILY.

543. MYRICA, Linn. (WAX-MYRTLE.)

(1970.) **M. Gale,** Linn. Sweet Gale.

Common along the margins of small ponds, lakes, and slow flowing streams, from Newfoundland throughout Canada to the Rocky Mountains, and northward to Hudson Bay, and Fort Norman on the Mackenzie River. (*Richardson.*)

(1971.) **M. Californica,** Cham.

North-west coast. (*Menzies.*) Swamps of Puget Sound. (*Douglas.*) Very likely in the valley of the Fraser near the coast.

(1972.) **M. cerifera,** Linn. Wax-Myrtle.

M. Pennsylvanica, Lam. Pursh, Fl. I., 620.
M. Carolinensis, Miller. Pursh, Fl. I., 620.
M. cerifera, var. β. *media*, Michx. Fl. II., 228.

Apparently common on the Prince Edward Island coast, more especially on the islands in Charlottetown Harbor; also on Point Pleasant at Halifax, N.S. (*Macoun.*) At Windsor, N.S. (*How.*) Along the coast at Pictou, N.S., and on St. Paul's Island, in the Gulf of St. Lawrence. (*McKay.*) Strait of Canso, N.S. (*Ball.*) Sand beach on the sea shore, Kent and Northumberland counties, N.B. (*Fowler's Cat.*) Sea shore, Petitcodiac, N.B. (*Brittain.*)

(1973.) **M. asplenifolia,** Endl. Sweet Fern.

M. Comptonia, A. DC.
Comptonia asplenifolia, Ait. Gray, Man., 458, 1868. Macoun's Cat. No. 1619.

Very common in many localities on sandy ridges and hills. Near Windsor, N.S. (*How.*) At Halifax and Kingston, N.S. (*Macoun.*) Pictou Co., N.S. (*McKay.*) Abundant on dry gravelly ground, Kent Co., N.B. (*Fowler's Cat.*) Norton and McAdam Junction, N.B. (*Hay.*) Rather rare in southern Quebec, but abundant in Ontario on all pine barrens, especially on the Algoma sand which is so widely spread over the northern part of that province, and extending westward to near the Lake of the Woods. (*Macoun.*) From New Brunswick to the Saskatchewan. (*Richardson.*)

XCVII. CUPULIFERÆ. Oak Family.

549. BETULA, Linn. (BIRCH.)

(1974.) **B. lenta,** Linn. Cherry or Black Birch.

B. excelsa, Aiton, Hort. Kew. III., 337.
B. nigra, Sommers, Journ. Nov. Scot. Ist. Nat. Sci., Vol. IV., Pt. II., 208. Macoun's Cat. No. 1628.

This fine tree has a comparatively wide range but attains its greatest size in north-western Ontario, where it is often found over four feet in diameter. (*Macoun.*) Newfoundland and the valley of the Saguenay

River, west through Ontario to the Manitoulin Islands of Lake Huron. (*Sargent.*) Abundant in Nova Scotia and New Brunswick. (*Hooker.*) A common forest tree, New Brunswick. (*Fowler's Cat.*) An abundant tree in Quebec and northern Ontario, but not extending west to Dog Lake, north-east of Lake Superior. (*R. Bell.*)

(1975.) **B. lutea,** Michx. f. Yellow Birch.

B. excelsa, Pursh, Fl. I., 621, not Aiton.

This is one of the finest trees of the Canadian forest, but does not attain the same dimensions in Ontario as it seems to do in the eastern provinces. (*Macoun.*) It extends from Newfoundland to Rainy River, and ranges north of the height of land at Lake Abittibi, but is not found on the north shore of Lake Superior, from Michipicoten to the United States boundary, and only small trees are found on the Canadian side of the line from this point to its western limit. (*R. Bell.*) Around Lake Mistassini, North-east Territory. (*J. M. Macoun.*)

(1976.) **B. alba,** var. **populifolia,** Spach.

B. populifolia, Hook. Fl. II., 155.

This tree is confined to the eastern provinces and St. Lawrence valley, but its range is little known outside of New Brunswick. In Nova Scotia, its size and peculiar habit at once attract the western botanist only acquainted with its congener—the Canoe Birch. Along the sea coast it is not uncommon and the same may be said of it in New Brunswick, where it is reported as being common. (*Macoun.*) New Brunswick and the valley of lower St. Lawrence River to the southern shores of Lake Ontario. (*Sargent.*)

(1977.) **B. papyrifera,** Michx. Canoe Birch.

B. papyracea, Ait. Gray, Man. 459, 1868. Macoun's Cat. No. 1624.
B. occidentalis, Lyall in Jour. Linnæan Soc. VII., 134 (not Hooker.)

No other tree in British North America has such a wide range as this one, and if we include the western form, its limits are bounded by the Atlantic on the east, by the Pacific on the west, extending southward beyond our border, and on the north by the limit of deciduous trees. (*Macoun.*) Northern Newfoundland and Labrador, to the southern shores of Hudson Bay and north-west to the Great Bear Lake and the valley of the Youcon River, Alaska. (*Sargent.*) The British Columbia form has much shorter and thicker leaves and a very different bark, so that it may be a distinct variety, and in that case should appear under Lyall's name.

(1978.) **B. occidentalis,** Hooker. Western Birch.

Rather common in British Columbia extending eastward to the Saskatchewan plains. Near springs on the west side of the Rocky Mountoins. (*Douglas.*) On the east side from Edmonton to the Rocky Mountains. (*Drummond.*) Along the North Saskatchewan from Edmonton to Victoria. In the Columbia valley from Golden City to the Selkirk Summit. (*Macoun.*) Upper Columbia lakes and river, and east of mountains on tributaries of Belly River. (*Dawson.*)

(1979.) **B. pumila,** Linn. Low Birch.

In bogs and by the sides of lakes and rivers in the north; extending from Newfoundland and Labrador south through Anticosti, Nova Scotia, New Brunswick, Quebec and the greater part of Ontario, and westward to the foot-hills of the Rocky Mountains.

(1980.) **B. glandulosa,** Michx. Dwarf Birch.

B. nana, Gray, Man., 412, 1858.

This shrub is abundant from Newfoundland and Labrador westward by Hudson Bay to the barren grounds and Mackenzie River, and southward along the base of the Rocky Mountains and in sub-alpine valleys to Lat. 49°; rather common in the foot-hills at Morley extending westward through the Rocky Mountains to the Columbia valley and northwestward through British Columbia to Alaska. Youcon River, Alaska. (*Rothr, Alask.*)

(1981.) **B. nana,** Linn. Hook. Fl. II., 156.

Newfoundland. (*McCormack.*) Sphagnous swamps, Hudson Bay and Canada. (*Michaux.*) Labrador. (*Morrison.*) On the east coast of Hudson Bay. (*R. Bell.*) Fort Franklin on the Mackenzie River. (*Richardson.*) Kotzebue Sound. Alaska. (*Chamisso.*) Norton Sound, Chamisso Island, and Point Barrow. (*Rothr. Alask.*) Common in Greenland. (*Hook. Arct. Pl.*)

(1982.) **E. Ermani,** Cham.

Ounalashka. (*Rothr. Alask.*) The two last species may be included in No. 1980, but we have no means of deciding.

550. ALNUS, Gærtn. (ALDER.)

(1983.) **A. rubra,** Bongard. Western or Red Alder.

A. glutinosa, Pursh, Fl. I., 622, in part.

A large tree in the valley of the Fraser River, B.C. (*Dawson.*)

From Lat. 49° to Sitka in the coast ranges and islands along the coast. (*Sargent.*) Pyramid Harbor, Alaska. (*Rothr. Alask.*)

(1984.) **A. rhombifolia,** Nuttall. Mountain Alder.

The range of this species and the preceding are still obscure and further examination is necessary before their limits can be fixed. Common in the Columbia valley and valleys of the Selkirks, B. C. (*Macoun.*) Along brooks in the Fraser River valley, B. C. (*Dawson.*) Valley of the Fraser and southward, B.C. (*Sargent.*)

(1985.) **A. incana,** Willd. Common Alder.

A. glauca, Michx. N. American Sylva. I., 378, 1819.
A. incana, var. *glauca,* Gray, Man. I. Ed., 423.
A. serrulata, Cat. Holmes Herb, 17.

Abundant from Newfoundland throughout Canada. Along small streams and in river valleys to the base of the Rocky Mountains, and southwards to Lat. 49°. Eastern British America within the arctic circle. (*Hook. Arct. Pl.*)

Var. **virescens,** Watson, Bot. Cal. II., 81.

B. incana, var. *glauca,* Macoun, Geol. Rep. Can., 210, 1875-76.

Abundant on the higher slopes of the Rocky Mountains from Kicking Horse Lake westward through the Selkirks, at an altitude of 6000 feet. (*Macoun.*) Rocky spring, West Butte, Lat. 49°. (*Dawson.*)

(1986.) **A. viridis,** DC. Green Alder.

A. undulata, Willd. Cat. Holmes Herb, 17.
A. crispa, Pursh, Fl. I., 623 ; Hook. Fl. II., 157.
A. glutinosa, Rich. App., page 36.
Betula Alnus crispa, Michx. Fl. II., 181.

A common shrub from Labrador and Newfoundland westward across the continent to the Pacific and northward in the barren grounds. Ford's Harbor, Labrador. (*R. Bell.*) Common in the eastern provinces, Quebec, and northern Ontario. It is found north of Lake Superior and around Lake Nipigon, appearing at Edmonton and northern British Columbia, where it covers large tracts in the burnt pine woods. (*Macoun.*) Sitka, Ounalashka, Norton Sound, Kotzebue Sound and northern coast, also Youcon River. (*Rothr. Alask.*) Greenland and within the arctic circle. (*Hook. Arct. Pl.*)

551. CARPINUS, Linn. (HORNBEAM.)

(1987.) **C. Caroliniana,** Walter. Blue Beech.

C. Americana, Michx. Gray, Man. 457, 1868. Macoun's Cat. No. 1616.

Low wet woods and margins of swamps. Reported from Nova Scotia, but very doubtful. Likely the next species. (*Macoun.*) Eastern Townships and western Quebec, up the Ottawa to the Mattawa and westward to the north shore of the Georgian Bay. In the western peninsula of Ontario, it attains its greatest size, but never becomes a conspicuous object in the forest being a low undersized spreading tree in the rich moist woods along Lake Erie.

552. OSTRYA, Scop. (IRON WOOD.)

(1988.) **O. Virginica,** Willd. Lever-wood.

Carpinus Ostrya, Linn. Michx. N. American Sylva. II., 162, 1819.
C. Ostrya, var. *Americana,* Michx. Fl. II., 202.

More widely distributed than the preceding and becoming a much finer tree. Its limits are nearly coincident with that of the maple. Woods on North Mountain, Annapolis, N.S., and on the mountain at Whycocogmah, Cape Breton. (*Macoun.*) Rather rare at Bass River, and Fredericton, N.B. (*Fowler's Cat.*) Common in all maple woods in Quebec and Ontario, and extending west to the east coast of Lake Superior at Goulais Bay. (*Macoun.*) Lake of the Woods and Rat Portage. (*R. Bell.*)

553. CORYLUS, Linn. (HAZEL-NUT.)

(1989.) **C. rostrata,** Ait. Beaked Hazel-nut.

C. avellana, Cat. Holmes Herb, 17.

A shrub of wide range, forming impassible thickets in woods cut over by lumbermen or devastated by fires. Dartmouth near Halifax, N.S. (*Sommers.*) Pictou Co., N.S. (*McKay.*) Rather common along streams in New Brunswick. (*Fowler's Cat.*) Abundant in Quebec and Ontario, and extending westward to Manitoba and the Saskatchewan as far as Prince Albert. (*Macoun.*) Not uncommon in the southern part of British Columbia, and occasionally on Vancouver Island. (*Dawson.*)

(1990.) **C. Americana,** Walt. Wild Hazel-nut.

Much more restricted in range than the last and chiefly confined to rocky thickets in Ontario, abundant at Belleville and in the valley of the Moira ; also at Trenton Station and in the Trent Valley nearly up to Campbellford. (*Macoun.*) Plentiful in the vicinity of Toronto. (*A. Fowler.*) Low sandy thickets, London, Ont., also at Emerson, Man. (*Burgess.*) In thickets near Selkirk, Man. (*J. M. Macoun.*) Abundant in thickets at Winnipeg, and westward in thickets up the Assinniboine and Qu'Appelle, and along the South Saskatchewan; in the Moose Mountains and Cypress Hills. (*Macoun.*)

554. QUERCUS, Linn. (OAKS.)

(1991.) **Q. alba,** Linn. White Oak.

Q. alba, var. *pinnatifida*, Michx. Fl. II., 195.
Q. alba, var. *repanda*, Pursh, Fl. I., 633.
Q. alba, var. *microcarpa*, DC. Prodr. XVI., 22.

One of our most widely distributed oaks, being found mixed with the white pine in western Quebec and eastern and northern Ontario, and reaching an immense size in the western peninsula. On sandy plains and sand or gravel ridges, it often constitutes over half the forest, but in low rich soils, it is seldom seen.

(1992.) **Q. Garryana,** Douglas. Western White Oak.

Q. Douglasii, var. ? *Necri*, DC. Prodr. XVI., 24.

Abundant on the south-eastern part of Vancouver Island, especially in the neighborhood of Victoria, where it occupies large tracts of rocky ground. Seen furthest north on prairies along the river at Comox. A few small trees, a mile and a half above Yale on the Fraser, B.C. (*Dawson.*)

(1993.) **Q. obtusiloba,** Michx. Post Oak.

Q. stellata, Wang. DC. Prodr. XVI., 22.

We have never been able to fully identify this tree in southern Ontario, but admit it on authorities given below. A tree with fruit agreeing with Michaux's figure grows along the Bay of Quinte and is possibly this species. (*Macoun.*) Canada. (*Dr. Beck*, vide *Hooker.*) Southern Ontario. (*Sargent.*)

(1994.) **Q. macrocarpa,** Michx. Mossy-cup Oak.

Q. olivæformis, Cat. Holmes Herb, 17.
Q. macrocarpa, var. *olivæformis,* Gray, Man. 451, 1868.
Q. alba, var. *Gunnisonii,* Macoun's Cat. No. 1601.
Q. alba, Hook. Fl. II., 158, in part.
Q. obtusiloba, Michx. Bourgeau in Palliser's Report, 260.

More widely distributed than the white oak, but never attaining as large a size nor covering as large areas. Near the residence of W. S. Butler, at Grand Lake, N.B. Rare. (*Fowler's Cat.*) Vicinity of Montreal. (*Holmes.*) Extending up the Ottawa from its mouth to Pembroke; along the St. Lawrence, on limestone shingle forming extensive groves at Prescott and Brockville; on both sides of the Bay of Quinte it is very common, extending some miles back from the water and ascending both the Moira and the Trent, from thence westward it is a common tree and is the "White Oak" of the northern part of Lake Huron. It appears again at the southern end of Lake Winnipeg and becomes of much value in many parts of Manitoba, where it forms large groves of fine trees. The last traces of it appear as stunted trees near the mouth of Shell River on the Assinniboine, and up the Qu'Appelle and westward as far as Spy Hill west of Fort Ellice. (*Macoun.*) On creek banks, Turtle Mountain, Man. (*Burgess.*) This is the common oak in the Red River country, and attains a good size along the streams and in sheltered localities. (*Dawson.*) Fine trees are found on Rainy River and in the district between the Lake of the Woods and Red River. On the English River it first appears about half way between Lonely Lake and Winnipeg River. Along Lake Winnipeg it extends as a tree to the Loon Straits, and as a bush to Berens River. (*R. Bell.*)

(1995.) **Q. bicolor,** Willd. Swamp White Oak.

Q. Prinus, var. *tomentosa,* Michx. Fl. II., 196.
Q. Prinus, var. *discolor,* Michx. N. American Sylva. I., 43, 1819.

The limits of this species are ill defined, as there is much confusion amongst collectors regarding the various oaks of any district. This, however, is the "Blue Oak" of the lumbermen and at one time furnished much of the oak exported from that part of Ontario west of the Trent River. We have no authentic record of it east of the Moira, Hastings Co., Ont., but it is still met with in low, damp or swampy woods throughout the valley of the Trent and all western Ontario. Easily distinguished from the other white oaks by its long peduncled fruit.

(1996.) **Q. Prinus,** Linn. Rock Chestnut Oak.

Q. Prinus, var. *monticola*, Michx. Fl. II., 196.
Q. montana, Willd. Pursh, Fl. I., 634.

This species has often been mentioned as occurring in Ontario and has been published as such by myself under the next species, as I had no means of separating them. At present we only know of its occurrence from Niagara River westward along Lake Erie to Amherstburgh. (*Macoun.*) Not uncommon on Pelee Point, Lake Erie. (*Burgess.*) Point Abino, Lake Erie. (*David F. Day.*)

(1997.) **Q. prinoides,** Willd. Yellow Oak. Chestnut Oak.

Q. Prinus, var. *humilis*, Marshall. Gray, Man. 452, 1868.
Q. Castanea, Muhl. Pursh, Fl. I., 634.
Q. Prinus, var. *acuminata*, Michx. N. American Sylva. I., 53, 1819. Macoun's Cat. No. 1607.
Q. Prinus pumila, Michx. Fl. II., 196.
Q. Chinquapin, Michx. N. American Sylva. I., 55, 1819.

Abundant on limestone soils in numerous places along both sides of the Bay of Quinte in the neighborhood of Belleville: also limestone shingle, Trent valley above Trenton, and along the Trent at Campbellford Bridge, Northumberland Co.: very common on Queenston Heights and in numerous places around Niagara. Many fine trees in the park at Niagara Falls. (*Macoun.*) Sandy soil, Point Pelee, Lake Erie. (*Burgess.*)

(1998.) **Q. rubra,** Linn. Red Oak.

Q. ambigua, Michx. Pursh, Fl. I., 630.
Q. coccinea, var. *ambigua*, Gray, Man. 454, 1868. Macoun's Cat. No. 1609, in part.

We follow Professor Sargent, in including the boreal form of our red oak with the more southern one, as we have never seen a series of specimens complete enough to separate them. Not uncommon at Halifax, Pictou and Windsor, and very likely many other places in Nova Scotia. (*Macoun.*) Rather common in Kent, Northumberland and York counties, N.B. (*Fowler's Cat.*) On the St. Lawrence between Quebec and Malbaie, in Lat. 47° 50'. (*Michaux.*) From thence westward through Quebec and Ontario, it is the common "Black Oak." It is occasionally met with along the north shore of Lake Huron, and east coast of Lake Superior, and appears for the last time on the Dawson Route at Lake Namakeen on the height of land west of Lake Superior. (*Macoun.*)

(1999.) **Q. coccinea,** Wang. Scarlet Oak.

The limits of this tree are very uncertain, owing to the confusion that exists in the minds of collectors, regarding it and *Q. rubra.* In University Park, Toronto, are a few fine trees, but they become more numerous to the west and in the forest along the Niagara River and Lake Erie, it is an abundant tree. More investigation is necessary before we can fix the exact limits of this species. (*Macoun.*) Vicinity of Toronto. (*A. Fowler.*)

(2000.) **Q. tinctoria,** Bartram. Yellow Oak.

Q. discolor, Aiton, Hort. Kew, III., 358.
Q. tinctoria, var. *angulosa,* Michx. Fl. II., 198.
Q coccinea var. *tinctoria,* Gray, Man. 454, 1868. Macoun's Cat. No. 1609 in part.

This species seems confined to western Ontario, as no specimens have been seen from any point further east. It is not uncommon at Niagara, and with the red and scarlet oak make up much of the forest along Lake Erie and Niagara River. (*Macoun.*) In woods around London, Ont. (*Burgess.*)

(2001.) **Q. palustris,** Du Roi. Pin Oak.

Abundant in wet woods below Queenston Heights, and in all low woods westward along Lake Erie and the Detroit River to Windsor, where it is of a very large size on the borders of the forest, and along old fences. (*Macoun.*) Point Abino, Lake Erie. (*David F. Day.*) Roadside at Leamington, Essex Co., Ont. (*Burgess.*)

555. CASTANEA, Gærtn. (CHESTNUT.)

(2002.) **C. vulgaris,** var. **Americana,** A. DC.

C. vesca, var. *Americana,* Michx. Fl. II., 193.
C. vesca, Willd. Gray, Man. 455, 1868. Macoun's Cat. No. 1610.

Plentiful in the vicinity of Toronto. (*A. Fowler.*) Common in the valleys around Hamilton, Ont. (*Logie.*) Very common at Queenston and Niagara Falls, and westward in the forest along Lake Erie and Detroit River to Lake St. Clair. (*Macoun.*) Abundant at Hall's Mills, seven miles from London, Ont. (*Saunders.*) Sandy soil at Hatchley, Brant Co., and London, Ont. (*Burgess.*)

556. FAGUS, Linn. (BEECH.)

(2003.) **F. ferruginea,** Aiton. American Beech.

F. sylvatica, Walter. Pursh, Fl. I., 624.
F. sylvestris, Michx. Fl. II., 194.

A common forest tree in Nova Scotia, New Brunswick and throughout Quebec and Ontario. It reaches its maximum size along Lake Huron, its limit being coincident with that of the limestone soils on the north of the Georgian Bay, but is quite common on the islands in the bay to our boundary at St. Mary's River.

XCVIII. SALICINEÆ. WILLOW FAMILY.

557. SALIX, Linn. (WILLOW.)

(2004.) **S. adenophylla,** Hook. Fl. II., 146.

Labrador. (*Morrison.*) Shores of the Great Lakes and Labrador. (*Bebb.*) Sand beaches of Cockburn Island, Lake Huron. (*J. Bell.*)

(2005.) **S. alba,** L. Var. **cærulea,** Smith.

Cultivated for ornament in many parts of Ontario, especially in the neighborhood of cities and towns. Vicinity of London, Ont. (*Burgess.*) The London tree seems to be a hybrid between *S. alba* and *S. fragilis.* Cultivated at Halifax, N. S. (*Lawson.*) Cultivated for ornament at Campbellton, N.B. (*Chalmers.*) Frequently cultivated, New Brunswick. (*Fowler's Cat.*) The above references should probably all be made to *S. alba* × *fragilis,* Wimmer. Not having seen the specimens, we cannot decide.

(2006.) **S. amygdaloides,** Anders. Sal. Bor. Amer. 8.

S. nigra, var. *amygdaloides,* Anders. DC. Prod. XVI², 201.

Bank of Red River at Emerson, Man. (*Burgess.*) Red River. (*Bourgeau.*) Westward to the Saskatchewan. (*Sargent.*)

(2007.) **S. arctica,** R. Br.

S. cordifolia, Pursh. Hook. Fl. II., 152, in part.
S. callicarpæa, Trant. referred here by Anderson.

Labrador. (*Morrison.*) Throughout the barren country of North America, from Lat. 64° to the shores and extreme islands of the Arctic

Sea. (*Richardson.*) Nachvak and Ford's Harbor, Labrador; Cape Chudleigh, Upper Savage Islands, Mansfield and Nottingham Islands, Hudson Straits. (*R. Bell.*) Kotzebue Sound and Ounalashka. (*Rothr. Alask.*) South-west Point, Anticosti, and summit of Mount Albert, Shickshock Mountains, Gaspé. (*Macoun.*) Within the arctic circle extending north to the Parry Islands, Melville Island and Greenland. (*Hook. Arct. Pl.*)

Var. **petræa,** Anders.

Very abundant on all the summits of the Rocky and Selkirk Mountains, Lat. 51°, at an elevation of 7,500-8,000 feet. (*Macoun.*) High parts of the Rocky Mountains. (*Drummond.*)

(2008.) **S. argyrocarpa,** Anders.

S. arbuscula, Macoun's Cat. No. 1634.
S. repens, Gray, Man. 418, 1858.
S. fusca, Hook. Fl. II., 151.

Fort Franklin on the Mackenzie River. (*Richardson.*) Ungava Bay, Labrador. (*Barnston.*) Table Top Mountain, Gaspé, altitude, 3,600 feet; also Forteau and Carrall Cove, Labrador. (*Allen.*) Moist thickets at the mouth of Nipigon River, Lake Superior. (*Macoun.*)

(2009.) **S. Barrattiana,** Hook. Fl. II., 146.

Alpine swamps of the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) Old Man River, and South Kootanie Pass, Rocky Mountains, Lat. 49°. (*Dawson.*)

(2010.) **S. balsamifera,** Barratt.

S. cordata, var. *balsamifera,* Hook. Fl. II., 149.
S. pyrifolia, Anders. Fowler's Cat. No. 587.

Chateau and Square Island, Labrador. (*Allen.*) Abundant in Gloucester, Northumberland and Kent Co.'s; also at Carleton, St. John Co., N.B. (*Fowler's Cat.*) Borders of brooks and damp places at Truro, N.S.; at the mouth of Nipigon River, and in numerous places around Lake Nipigon, north of Lake Superior. (*Macoun.*) Patterson's Creek, Ottawa. (*J. M. Macoun.*) Lake Winnipeg and along the Saskatchewan. (*Richardson.*) In thickets on the Nechacco River, British Columbia. (*Macoun.*)

(2011.) **S. Barclayi,** Anders. Sal. Bor. Amer. 20. Anders. Sal. Monog. 164. DC. Prod. XVI², 254.

Kodiak. (*Rothr. Alask.*) Bartlett Bay, Alaska. (*Meehan.*) Ounalaska and Kodiak. (*Barclay & Dr. Kellogg.*)

Var. **latiuscula,** Anders. Monog. 165.

Newfoundland. (*De la Pylaie.*)

(2012.) **S. candida,** Willd. Hoary Willow.

S. incana, Michx. Fl. II., 225.

Forteau, Labrador. (*Allen.*) Peat bogs and tamarac swamps and river-margins, widely distributed. Margin of Jupiter River, and Salt Lake, Anticosti, also along the Ste. Anne's River, Gaspé. (*Macoun.*) Mingan and Anticosti Islands, River St. Lawrence. (*St. Cyr.*) Sparingly on Sugar Bush Lake, River Rouge, Q. (*D'Urban.*) Dow's swamp and other localities at Ottawa. (*Fletcher Fl. Ott.*) Abundant in peat and other bogs throughout northern Ontario, and extending westward through the prairie region and Rocky Mountains and northern British Columbia to Quesnel. (*Macoun.*) Abundant in the Cypress Hills, N.W.T. (*J. M. Macoun.*) Small lake near Pincher Creek, N.W.T. (*Dawson.*) Throughout the wooded country north of the Saskatchewan. (*Drummond.*) York Factory, Hudson Bay. (*R. Bell.*)

(2013.) **S. chlorophylla,** Anders.

Nain and Ford's Harbor, coast of Labrador, Upper Savage Islands, Nottingham, Digge's and Mansfield Islands, Hudson Strait. (*R. Bell.*) Pictou Co., N.S., and St. Paul's Island, Gulf of St. Lawrence. (*McKay.*) Saskatchewan and Lake Winnipeg. (*Bourgeau.*) Great Slave Lake. (*Capt. Pullen.*)

(2014.) **S. Chamissonis,** Anders. DC. Prod. XVI², 290.

Island of St. Lawrence, Alaska. (*Chamisso.*)

(2015.) **S. cordata,** Muhl. Heart-leaved Willow.

S. rigida, Muhl.

This is one of our most widely spread willows, and one that takes innumerable forms between the Atlantic and the Pacific. Bass River, N.B. (*Fowler's Cat.*) Petitcodiac, N.B. (*Brittain.*) Salmon River, N.B. (*Wetmore.*) St. Stephen, N.B. (*Vroom.*) Salt Lake, Anticosti; Truro, N.S.; coast of Gaspé, Q. (*Macoun.*) Banks of streams, Prescott and Brockville, Ont. (*Billings.*) Wet places around Ottawa. (*Fletcher Fl. Ott.*) Vicinity of London, Ont., and Emerson, Man. (*Burgess.*) Very common in central Ontario, around Lakes Superior, Nipissing, and Nipigon, and westward through the Rocky Mountains to the Fraser River, B.C. (*Macoun.*) Oxford House to Knee Lake, Nelson River. (*R. Bell.*) Moist woods and prairies of the Saskatchewan. (*Drummond.*) Old Man River, N.W.T. (*Dawson.*) In thickets

near Victoria, Vancouver Island. (*Fletcher.*) Forms of this species, referred by us to *S. lutea*, Nutt., were collected in the valleys of Moose Jaw Creek, Swift Current Creek and Maple Creek. (*J. M. Macoun.*) Thickets at Morley, and Kananaskis, foot-hills of the Rocky Mountains. (*Macoun.*)

Var. **angustata,** Gray. Narrow-leaved Willow.

S. angustata, Pursh. Gray, Man. 416, 1858.

This variety is made to include those forms with long narrow leaves which, were it not for the fruit would be considered quite distinct from *S. cordata*. Low grounds, London, Ont. (*Burgess.*) Not uncommon in Ontario from Ottawa to Toronto; abundant at Belleville. (*Macoun.*)

Var. **Mackenzieana,** Hook. Fl. II., 194.

In this variety the leaves are obovate-lanceolate and come near *S. balsamifera*. Great Slave Lake and Mackenzie River. (*Richardson.*) In the Rocky Mountains at Kicking Horse Lake, Lat. 51°. (*Macoun.*) Point Barrow and along the arctic coast. (*Rothr. Alask.*)

(2016.) **S. discolor,** Muhl. Glaucous Willow.

S. prinoides, Pursh, Fl. I., 613.

One of our most abundant willows, growing in low swampy places, often becoming a small tree. Banks of streams and wet grounds, common, N. B. (*Fowler's Cat.*) Campbellton, N. B. (*Chalmers.*) Vicinity of Truro, Halifax and Windsor, N. S. (*Macoun.*) Quebec, Island of Orleans, and Mingan Islands, Q. (*St. Cyr.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Sugar Bush Lake, Montcalm, and mouth of Devil's River, Ottawa Co., Q. (*D'Urban.*) Very abundant about Prescott, Ont. (*Billings.*) Swamps near London, Ont., and at Emerson, Man. (*Burgess.*) Abundant in swamps and on river banks from Ottawa westward throughout Ontario, and in the swamps and bogs of the prairie region. (*Macoun.*)

Var. **eriocephala,** Anders.

S. eriocephala, Michx. Fl. II., 225.

We include in this variety all our forms having densely flowered and very silky aments. New Brunswick. (*Mr. Kendal.*) Margins of brooks, St. Stephen, N.B. (*Vroom.*) Sillery, near Quebec. (*Sheppard.*) Near Ottawa, Ont. (*J. M. Macoun.*) Low meadows near London, Ont. (*Burgess.*)

(2017.) **S. desertorum,** Rich. Prairie Willow.

On gravel bars along Jupiter River, Anticosti ; on the summit of Mount Albert, Shickshock Mountains, Gaspé. (*Macoun.*) From the Saskatchewan to Fort Franklin. (*Richardson.*) Cypress Hills, N.W.T. (*J. M. Macoun.*) Eastern summit of the North Kootanie Pass and Columbia valley, Rocky Mountains. (*Dawson.*) Very abundant from the South Saskatchewan westward, more especially in the foot-hills on dry slopes, at Calgary and Morley, and through the Rocky Mountains to the Columbia valley at Donald, Lat. 51° ; also at Clinton above Câche Creek, B.C. (*Macoun.*)

(2018.) **S. Drummondiana,** Barratt.

Marshes and prairies, of the Rocky Mountains, Lat. 52°–56°. (*Drummond.*) On the beds of snow-slides, summit of the Selkirk Mountains, B.C. (*Macoun.*)

(2019.) **S. fulcrata,** var. **subglauca,** Anders. DC. Prod. XVI², 244.

N. W. America. (*Seeman.*) Nushagak, Alaska. (*C. L. McKay*)

(2020.) **S. flavescens,** Nutt.

In ravines, Cypress Hills, N.W.T. (*J. M. Macoun.*) It is quite probable that this species, which becomes a small tree, may be found in many of the deep coulées to the south. On the banks of the Columbia at Donald, Lat. 51°, B.C. (*Macoun.*)

Var. **Scouleriana,** Bebb.

S. Scouleriana, Barratt. Hook. Fl. II., 145.

Common from Lat. 49° on the Pacific coast to Kodiak, Alaska. (*Bebb.*) Through the Rocky Mountains to Columbia valley at Donald, Lat. 51°. (*Macoun.*) On the Fraser at New Westminster, and at Cache Creek, B.C. (*Macoun.*) Nicola valley, B.C. (*Dawson.*)

(2021.) **S. glauca,** Linn.

Damp places, Nachvak and Ford's Harbor, Labrador. (*R. Bell.*) Amongst rocks on the Mingan Islands, Q. (*St. Cyr.*) At Salt Lake, Anticosti. (*Macoun.*) Lake Mistassini, N. E. T., Lat. 51°. (*J. M. Macoun.*) Cape Espenberg and Chamisso Island. (*Rothr. Alask.*) Nushagak, Alaska. (*C. L. McKay.*)

Var. **villosa,** Anders.

S. villosa, Hook. Fl. II., 144.
S. glaucops, Anders. DC. Prodr. XVI², 281. Macoun's Cat. No. 1649.

Rocky Mountains, Lat. 52°–56°, thence to the Arctic Sea, also Fort

Franklin on the Mackenzie River. (*Drummond & Richardson.*) Under a number of forms, this variety extends from the eastern side of the Rocky Mountains at Morley to the summit of the Selkirks, Lat. 51°, and north-westward in British Columbia to Fort McLeod in Lat. 55°. (*Macoun.*) Lake Lindeman, source of the Youcon River, Lat. 60°. (*Schwatka.*)

(2022.) **S. herbacea,** Linn. Herb-like Willow.

Labrador. (*Morrison.*) Nain, coast of Labrador; Cape Chudleigh, Nottingham, and Digge's Islands, Hudson Strait. (*R. Bell.*) Summit of Mount Albert, Shickshock Mountains, Gaspé; on the summits of all the higher Rocky Mountains, from Canmore to the Selkirk Mountains, Lat. 51°, B.C. (*Macoun.*) Arctic Islands. (*Sir E. Parry.*) North-west coast. (*Nelson.*)

(2023.) **S. Hookeriana,** Barratt.

Near the Grand Rapids of the Saskatchewan, rare. (*Douglas.*) North-west coast of America. (*Scouler.*)

(2024.) **S. humilis,** Marshall. Prairie Willow.

S. conifera, Willd. Pursh, Fl. I., 612.
S. longirostris, Michx. Fl. II., 226.
S. Muhlenbergiana, Pursh, Fl. I., 609.

Halifax, N.S. (*Sommers.*) Dry barrens, Bass River; also, Kouchibouguac, N.B. (*Fowler's Cat.*) On dry rocky slopes at Truro, N.S. (*Macoun.*) St. Stephen, N.B. (*Vroom.*) Neighborhood of Ottawa. (*Fletcher Fl. Ott.*) Dry sandy soil, Chalk River, on the Ottawa River, and westward on dry rocky or sand banks through Ontario, and on the islands north of Lake Huron. (*Macoun.*) Dry sandy soil, London, Ont. (*Burgess.*) Dry slopes of the South Kootanie Pass, Lat. 49°. Leaves only. (*Dawson.*)

(2025). **S. humillina,** Anders. DC. Prod. XVI², 248.

Prince Albert Sound. (*Mieschring.*) Rae River. (*Dr. Rae.*) Labrador. (?)

(2026.) **S. lasiandra,** Benth. Var. **typica,** Bebb.

S. arguta, var. *lasiandra,* Anders. De Candolle Prodr. XVI.² 206.

Along the Thompson River at Spence's Bridge, and in thickets at Câche Creek, B.C. (*Macoun.*)

Var. **lancifolia,** Bebb. in Bot. California.

S. speciosa, Nuttall. N. American Sylva, I., 58, 1819.
S. lancifolia, Anders. Gray in Proc. Am. Acad. VII., 402.
S. lucida, var. *macrophylla,* Anders. De Candolle, Prodr. XVI.² 206.

Along the banks of the Columbia at Donald, and in the valleys of Six Mile Creek and Beaver Creek, in the Selkirk Mountains; also in the valley of the Thompson at Spence's Bridge, B.C. (*Macoun.*) Collected on Vancouver Island and in the valley of Fraser River, B.C. (*Fletcher.*)

(2027.) **S. longifolia,** Muhl. Long-leaved Willow.

S. rubra, Rich. App., 37.
S. longifolia, var. *pedicellata,* Anders. Macoun in Geol. Rep. Canada, 1875-76, 210.

Banks of St. Lawrence, near Quebec. (*St. Cyr.*) In alluvium along river banks and on islands in rivers and lakes; shore of Rice Lake, Ont. (*Macoun.*) Along the Thames River at London, Ont.; and along the Red River at Emerson, Man., also on the Turtle Mountain, Lat. 49°. (*Burgess.*) In river bottoms in the southern part of Alberta, and along Old Man River, foot-hills of Rocky Mountains. (*Dawson.*) A common willow in all river bottoms throughout the prairie region and northward to Lake Athabasca, and westward to northern British Columbia. It is abundant on every part of the Saskatchewan, and ascends the Bow River far within the Rocky Mountains. (*Macoun.*) From Canada to the Mackenzie River. (*Richardson.*) At Jasper's Lake, near Jasper House in the Rocky Mountains. On drifting sands, growing in tufts. (*Drummond.*)

Var. **argyrophylla,** Anders.

S. argophylla, Nuttall, Sylva, I., 75.

In same localities with the type, but more abundant in the dry prairie region. Swift Current Creek, N.W.T. (*J. M. Macoun.*) Along the Athabasca at Fort Assiniboine and at Clinton, B.C. (*Macoun.*)

(2028.) **S. lucida,** Willd. Shining Willow.

A widely spread and easily distinguished willow, found in ditches and swamps from the Atlantic to the Rocky Mountains. In wet places at Whycocogmah, Cape Breton, and at Salt Lake, Anticosti. (*Macoun.*) Rather common, Kouchibouguac, N.B. (*Fowler's Cat.*) Rather common in ditches and wet places along the banks of the River Rouge, Q. (*D'Urban.*) Common around Prescott, Ont. (*Billings.*) Not rare around Ottawa. (*Fletcher Fl. Ott.*) Swampy river bank, London, Ont. (*Burgess.*) Common in ditches and swamps, and by brooks, from Ottawa westward through Ontario and westward to Canmore within the

Rocky Mountains, Lat. 51°, and northward to Lake Athabasca. (*Macoun.*) Muskeg Island, Lake Winnipeg. (*J. M. Macoun.*) Hill River, Hudson Bay. (*R. Bell.*) Old Man River, base of Rocky Mountains. (*Dawson.*) Throughout Canada and from Lake Huron to the Saskatchewan and Jasper's Lake in the Rocky Mountains, Lat. 54°, and as far north as Fort Franklin on the Mackenzie River. (*Richardson & Drummond.*)

(2029.) **S. myrtilloides,** Linn. Myrtle Willow.

S. pedicellaris, Pursh. Hook. Fl. II., 150.

Peat and other cold bogs, from the Atlantic to the Coast Range, B.C. In bogs, Richibucto, N.B. (*Fowler's Cat.*) In peat bogs, summit of Mount Albert, Shickshock Mountains, Gaspé. (*Macoun.*) Marsh near Prescott Junction, Ont. (*Billings.*) In tamarack and other swamps, Hasting Co., Ont.; cold peat bog, Red Rock, Lake Superior. Marshes at the mouth of the Kaministiquia, and near Port Arthur, and in bogs at Rainy Lake. (*Macoun.*) Muskeg Island, Lake Winnipeg. (*J. M. Macoun.*) Near Lonely Lake, and on the Echimanish River, Hudson Bay. (*R. Bell.*) Saskatchewan to Fort Franklin on the Mackenzie River. (*Richardson.*) In bogs, north-west of Edmonton, and near Lesser Slave Lake; also in the valley of Bow River, near Gleichen, and in the valley of Fraser River at Quesnel, B. C. (*Macoun.*) Kotzebue Sound, Alaska. (*Rothr. Alask.*) Eastern British America, north of the arctic circle. (*Hook. Arct. Pl.*)

(2030.) **S. nigra,** Hook. Fl. II., 149.

S. Caroliniana, Michx. Fl. II., 226.
S. Houstoniana, Pursh, Fl. I., 614.
S. falcata, Pursh. Hook. Fl. II., 149.
(?) *S. ambigua,* Pursh, Fl. I., 617.
S. ligustrina, Michx. N. American Sylva, II., 212, 1819.
S. nigra, var. *falcata,* Gray, Man., 417, 1858.

Not uncommon in low grounds along streams or lake margins. Harris Cove, N.B. (*Fowler's Cat.*) About Quebec. (*Mrs. Cleghorn.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Common in low grounds at Prescott, Ont. (*Billings.*) In the neighborhood of Hamilton, Ont. (*Logie.*) Rich river flats at London, and on sandy soil, Pelee Point, Essex Co., Ont. (*Burgess.*) Not uncommon on alluvium in river valleys from Kingston westward, on the borders of marshes, Bay of Quinte and many places along Lake Ontario. Moist places at Queenston, both along the river and railway, also abundant at Port Colborne and westward along both Lakes Erie and St. Clair. Small trees are not uncommon in the Kaministiquia valley west of Lake Superior. (*Macoun.*) Valley of Maple Creek, N.W.T. (*Dawson & J. M. Macoun.*)

(2031.) **S. Novæ-Angliæ,** Anders. Sal. Monog., 160. Var. **pseudo-myrsinites,** Anders.

Rocky Mountains. (*Drummond & Bouryeau.*) Grand Rapid of the Saskatchewan. (*Herb. Hooker.*) Lake of the Woods. (*Dr. Bell.*)

Var. **pseudo-cordata,** Anders.

Saskatchewan. (*Bourgeau.*) Jasper House. (*Burke.*) Mackenzie River. (*Richardson.*) Rocky Mountains. (*Drummond.*)

Var. **myrtillifolia,** Anders.

Rocky Mountains. (*Herb. Hooker.*)

(2032.) **S. orbicularis,** Anders. DC. Prod. XVI², 300.

Sitka and Ounalaska. (*Herb. Gray.*)

(2033.) **S. ovalifolia,** Traut. Anders. D.C. Prod. XVI², 291.

S. Uva-ursi, Seeman, Voy. of "Herald."
S. myrtilloides, f. 4, Chamisso, Linnæa, 6, 539.
S. Unalaskaensis, Chamisso, l. c., 541.

Western arctic America, near Behring Strait. (*Seeman.*) Point Barrow, Alaska. (*Prof. Murdock*) Kotzebue Sound, Cape Espenberg and Island of Ounlashka. (*Rothr. Alask.*)

(2034.) **S. Pallasii,** Anders. DC. Prod. XVI², 285. Var. **crassijulis,** Anders.

S. crassijulis, Traut. Sal. frigida, 308.

Ounalaska. (*Kellogg & Eschscholtz.*) Nushagak. (*C. L. McKay.*) Bartlett Bay, Alaska. (*Meehan.*)

Var. **diplodyctya,** Anders.

S. diplodyctya, Traut. Sal. frigid, 307.

Forms from Cape Prince of Wales, Hudson Strait, collected by Dr. Bell, are doubtfully referred here. Island of St. Lawrence. (*Rothr. Alask.*)

(2035.) **S. prolixa,** Anders.

Not uncommon around Victoria, Vancouver Island, also in the valley of Thompson River, at Spence's Bridge, B.C. (*Macoun.*)

(2036.) **S. phlebophylla,** Anders.

S. arctica, var. *buxifolia,* Ledeb. Fl. Ross, 3, 669.
S. retusa, Hook. Fl. II., 153.

Eastern British America, north of the arctic circle. (*Hook. Arct. Pl.*) Eastern summit of North Kootanie Pass, Rocky Mountains. (*Dawson.*)

Ounalashka, island of St. Lawrence, and Kotzebue Sound. (*Rothr. Alask.*) Point Barrow. (*Prof. Murdock, U.S.N.*)

(2037.) **S. polaris,** Wahl.

Wainwright Inlet, Alaska. (*Rothr. Alask.*) Islands north of Lancaster Sound, the Parry Islands, and Melville Island, in the Arctic Ocean. (*Hook. Arct. Pl.*)

(2038.) **S. phylicoides,** Anders.

Avatscha Bay, western arctic America. (*Rothr. Alask.*)

(2039.) **S. petiolaris,** Smith.

S. fuscata, Pursh, Fl. I., 612.

Sandy river banks, either rare or generally overlooked. Petitcodiac, N.B. (*Brittain.*) St. Stephen, N.B. (*Vroom.*) Vicinity of Ottawa. (*Fletcher Fl. Ott.*) Very common at Prescott, Ont. (*Billings.*) Banks of the Moira at Belleville, and in numerous places in Northumberland Co., Ont. (*Macoun.*) Low grounds at London, Ont., and at Emerson, on the Red River, Man. (*Burgess.*) Lake Winnipeg and the Saskatchewan. (*Richardson.*) Not uncommon in the neighborhood of Edmonton, N.W.T. (*Macoun.*)

Var. **gracilis,** Anders. Sal. Monog. 109.

S. gracilis, Anders. Sal. Bor. Amer. 22.
S. rosmarinifolia, Pursh. Hook. Fl. II., 148.

Saskatchewan. (*Richardson, Drummond & Bourgeau.*)

(2040.) **S.** PURPUREA, Linn. Purple Willow.

S. Lambertiana, Pursh, Fl. I., 611.

Billings' Bridge, three miles from Ottawa. (*J. M. Macoun.*) Not uncommon on Toronto Island, and between Niagara town and Queenston. (*Macoun.*)

(2041.) **S. rostrata,** Rich. Livid Willow.

S. livida, var. *occidentalis,* Gray. Macoun's Cat. No. 1653.

Our most common species, and one that is very largely collected in every part of the country. In thickets at Salt Lake, Anticosti; and at Halifax, Windsor, Annapolis, Yarmouth, and Truro, N.S. (*Macoun.*) Frequent at Pictou, N.S. (*McKay.*) Very common in New Brunswick. (*Fowler's Cat.*) Abundant throughout Quebec and Ontario and westward across the continent to the Coast Range in British Columbia. (*Macoun.*) From Hudson Bay to the prairies of the Rocky Mountains and north to Fort Franklin on the Mackenzie. (*Richardson & Drummond.*)

(2042.) **S. reticulata,** Linn.

Nachvak, coast of Labrador; Cape Chudleigh, Digge's, Mansfield and Nottingham Islands, Hudson Strait; also along the east coast of Hudson Bay. (*R. Bell.*) Summit of Mount Albert, Shickshock Mountains, Gaspé. (*Macoun.*) Fort Franklin to the arctic shores and islands. (*Richardson.*) York Factory, Hudson Bay. (*Drummond.*) Labrador. (*Morrison.*) Bartlett Bay, Alaska. (*Meehan.*) Ounalashka, Kotzebue Sound, Cape Lisburne and arctic coast. (*Rothr. Alask.*) Eastern British America, north of the arctic circle, and Greenland. (*Hook. Arct. Pl.*)

Var. **nivalis,** Hook.

Near the summits on the peaks of the Rocky Mountains, Lat. 52°-56°. (*Drummond.*) Near the snow line on all the higher mountains, from Canmore to the Selkirk summit on the line of the Canadian Pacific Railway, Lat. 51°. (*Macoun.*) North-west Branch of North Fork of Old Man River, Rocky Mountains. (*Dawson.*)

(2043.) **S. Richardsoni,** Hooker.

Fort Franklin on the Mackenzie River. (*Richardson.*) Kotzebue Sound to Cape Lisburne. (*Rothr. Alask.*)

(2044.) **S. Sitchensis,** Sanson.

S. cuneata, Nuttall, Sylva I., 66.

Abundant at New Westminster in the Fraser River valley and at Quesnel, B.C. (*Macoun.*) In thickets, neighborhood of Victoria, B.C. (*Fletcher.*) From Alaska southward, along the coast. (*Sargent.*) Sitka. (*Rothr. Alask.*) Bartlett Bay, Alaska. (*Meehan.*) Lake Lindeman, source of the Youcon River, Lat. 60°. (*Schwatka.*) Nushagak, Alaska. (*C. L. McKay.*)

Var. **angustifolia,** Bebb.

S. chlorophylla, var. *pellita,* Anders.

Eastern summit of North Kootanie Pass, Rocky Mountains. (*Dawson.*) Rather common in northern British Columbia at Stuart's Lake and Fort McLeod, Lat. 55°. (*Macoun.*)

(2045.) **S. sessilifolia,** Nuttall.

Collected in the valley of the Fraser River, B. C. (*Fletcher.*)

(2046.) **S. speciosa,** Hook. & Arn.

Fort Norman and Fort Franklin on the Mackenzie River. (*Richardson.*) On the highest summits of the Rocky Mountains. (*Drummond.*) Kotzebue Sound. (*Beechey.*) Eastern British America, north of the arctic circle. (*Hook. Arct. Pl.*) Nushagak, Alaska. (*C. L. McKay.*)

(2047.) **S. sericea,** Marshall. Silky Willow.

S. grisea, Willd.

Collected at Halifax, N.S. (*Sommers.*) We have seen no specimens.

(2048.) **S. tristis,** Ait.

Collected at Halifax, N.S. (*Sommers.*) Magdalen Islands, Gulf of St. Lawrence. (*McKay.*) We have seen no specimens.

(2049.) S. VIMINALIS, Linn. Basket Osier.

Arichat, Cape Breton, and Halifax, N.S. (*Allen.*) Cultivated in a few places, N.B. (*Fowler's Cat.*) In a few places at Belleville and near Toronto. (*Macoun.*)

(2050.) **S. vestita,** Pursh.

Labrador. (*Kohlmeister.*) Nachvak, coast of Labrador. (*R. Bell.*) South-west Point, Anticosti. (*Macoun.*) Wet clefts of rocks in a deep ravine, altitude 2,800–3,200 feet, Table Top Mountain, Gaspé. (*Allen.*) Crevices of rocks, Lake Mistassini. (*McOuat & J. M. Macoun.*) Eastern summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*) Abundant in all elevated situations in the Rocky and Selkirk Mountains, Lat. 51°. (*Macoun.*) On the more elevated of the Rocky Mountains. (*Drummond.*)

(2051.) **S. Uva-ursi,** Pursh.

S. Uva-Ursi, Hook. Fl. II., 152.

S. Cutleri, Tuckerm. in Sillim. Journal, 45, 36.

Labrador. (*Kohlmeister.*) Mount Albert, near the summit, and Dead Islands, Labrador. (*Allen.*) Hudson Bay. (*Dr. Wright.*) Woody country between Lat. 54°-64°. (*Richardson.*)

(2052.) **S. lanata,** Linn.

Eastern British America, north of the arctic circle, and Greenland. (*Hook. Arct. Pl.*)

Note.

In determining the willows, we have had the assistance of M. S. Bebb, Esq., Rockford, Illinois, who has made a special study of the North American species. All specimens collected by Dawson, Fletcher, Burgess, Vroom, Bell and myself, have been submitted to him, and our determinations either confirmed or corrected. The synonymy is far from perfect, but it is the best we could do with the materials at hand. Collectors would confer a favor by gathering fruiting specimens in all parts of the country.

558. POPULUS, Linn. (POPLAR.)

(2053.) **P. tremuloides,** Michx. Aspen.

P. trepida, Willd. Pursh. Fl. I., 618.

One of the most widely distributed of the deciduous trees. It is found on all dry slopes from Newfoundland and Labrador throughout the northern forest region to Alaska. It constitutes the "bluffs" and copse wood scattered over the prairie region, and is a fine large tree in the southern part of the sub-arctic forest. Although it is always found on the dry slopes in the north, in Ontario it more frequently grows on wet than on dry soil.

(2054.) **P. grandidenta,** Michx. Large-toothed Aspen.

Rather common in many places in Nova Scotia, mixed with aspen. (*Macoun.*) Vicinity of Pictou, N. S. (*McKay.*) Quite common in New Brunswick. (*Fowler's Cat.*) A common tree in Quebec and Ontario, but usually taken for aspen. It generally grows on sandy soil, intermixed with young pines.

(2055.) **P. balsamifera,** Linn. Balsam Poplar.

This tree, in habit, differs very much from the aspen, but in its range it extends even further north, and instead of being of little value, as the aspen is, it attains a great size and height, as far north as the arctic circle on the Mackenzie River. West of Manitoba and northward, it is usually found growing on alluvium in the river valleys, and in such situations it is often nearly 150 feet high, and frequently over seven feet in diameter. On the Peace River and all streams which unite to form the Mackenzie, it occupies all the islands and low alluvial banks. During the period of flood many trees fall into the rivers by the wearing away of the banks, and a great number of them in the course of time reach the Arctic Ocean. These are eventually cast on the islands and shores, and become the chief source from which is derived the fuel supply of arctic travellers. The same may be said of the Youcon valley in Alaska, as it is this tree that occupies the valley and islands of that river on all newly formed lands, but in time gives place to spruce as the sub-soil becomes cold and moist from the density of the poplar and willow growth.

Var. **candicans,** Gray.

P. candicans, Ait. Pursh. Fl. I., 618.

Planted for ornament in New Brunswick. (*Fowler's Cat.*) Vicinity of Campbellton, N. B. (*Chalmers.*) Apparently wild in the neighborhood of Pictou, N.S. Both petioles and upper surface of the leaves hairy. In Ontario this variety seems to be the prevailing form, if the hairy petiole and veins of the upper surface of the leaf constitute, with the heart-shaped, short pointed leaves, the separating characters. (*Macoun.*) One small tree detected below Niagara Falls, on the Canadian side, near the water's edge. Probably of natural growth. (*David F. Day.*)

(2056.) **P. angustifolia,** James. Black Cottonwood.

P. balsamifera, var. *angustifolia,* Wat. Macoun's Cat. No. 1675.

In the south-western part of the prairie region along the Milk and Belly rivers and their tributaries, near Lat. 49°. (*Dawson.*) Common in the Bow River valley from the Blackfoot Crossing to the Rocky Mountains. Easily known by its very narrow long pointed leaves. (*Macoun.*)

(2057.) **P. trichocarpa,** Torr. & Gray.

P. balsamifera. var. Hook. Fl. II., 154.
P. balsamifera, Lyall. in Jour. Linnæan Soc. VII., 134.

Common in the Columbia valley at Donald, and westward through the low valleys of the Selkirk Mountains. (*Macoun.*) Valley of the Fraser River and probably further north. (*Sargent.*) There is some difficulty in separating this tree (a western form), from *P. monilifera* and *P. balsamifera* in the northern and north-eastern part of British Columbia. While it certainly occurs in the valley of the Lower Fraser we have no notice of its occurrence along the river above Yale. (*Dawson.*)

(2058.) **P. monilifera,** Aiton. Cottonwood.

P. angulata, Ait. Pursh. Fl. I., 619.
P. lævigata, Ait. Pursh. Fl. I., 619.
P. angulosa, Michx. Fl. II., 243.
P. Canadensis, Michx. N. American Sylva II. 111, 1819.

Ste. Anne, Champlain Co., and Lotbinière, Q. (*St. Cyr.*) Vicinity of Montreal, 1821. (*Holmes.*) At Billings Bridge, and other places along the Rideau, near Ottawa. (*Fletcher.*) In ditches along the Grand Trunk railway for its whole length in Ontario. All young trees produced from western seed, carried by the cars. Large trees in

old fields at Belleville, also on Presqu'ile Point, Lake Ontario, and sand along the lake and river shores throughout Ontario. (*Macoun.*) Sandy shore, Point Pelee, Lake Erie, Essex Co., Ontario. (*Burgess.*) Rather common in all the river valleys throughout the prairie region from the Red River westward to the base of the Rocky Mountains At "Big Stick" Lake, north of the Cypress Hills, there was a grove of these trees of a very large size in existence in 1880. These had escaped the annual prairie fires, being surrounded and partly covered up by sand, and stood as a proof of the existence of forests in the past, where now there is not even a bush. The trees were over 50 feet high, and some of them at least two feet in diameter.

Note.

Populus alba (Abele Tree), and *P. dilatata* (Lombardy Poplar), are quite common throughout the older settlements. The former is very difficult to eradicate when once established, owing to the great number of offsets that spring from the roots.

XCIX. EMPETRACEÆ. Crow-berry Family.

559. EMPETRUM, Linn. (CROW-BERRY.)

(2059.) **E. nigrum,** Linn. Black Crow-berry.

Newfoundland, Ford's Harbor, coast of Labrador, Cape Chudleigh, Digge's and Nottingham Islands, Hudson Strait. (*R. Bell.*) Pictou, Arisaig, and Magdalen Islands, N. S. (*McKay.*) Abundant in all peat bogs and on "Bake Apple" barrens in Nova Scotia and Cape Breton. (*Lawson & Sommers.*) Hillocks in bogs, common. Rocky banks, Bay of Chaleurs. (*Fowler's Cat.*) Dalhousie, N.B. (*Fletcher.*) On islands in the Gulf of St. Lawrence ; Anticosti, and many points on the river St. Lawrence. (*St. Cyr.*) Along the north shore of Lake Superior, and at Port Arthur, west of the lake. Thence it takes a north-westerly direction and is found in peat bogs, on exposed rocks along lake shores, and on barren grounds to the Pacific Ocean and Arctic Sea. This is the chief article of food for young geese in the north, and large flocks of both old and young have been seen by the writer feeding upon its berries on Anticosti.

560. COREMA, Don. (BROWN CROW-BERRY.)

(2060.) **C. Conradii,** Torrey.

On rocks, Newfoundland. (*Gray.*) Near Bedford, and North-west Arm, Halifax, N. S. (*Lindsay & Sommers.*) Wilmot, Annapolis, N.S. (*How.*) Common on rocky ledges, North-west Arm, Halifax, and very abundant on sand at Kingston on the Windsor and Annapolis railway. (*Burgess & Macoun.*)

C. CERATOPHYLLEÆ. HORN-WORT FAMILY.

561. CERATOPHYLLUM, Linn. (HORNWORT.)

(2061.) **C. demersum,** Linn.

Not rare, but seldom collected. Ponds and slow streams at Ottawa. (*Fletcher Fl. Ott.*) Vicinity of Montreal, and at Malden, Ont. (*Maclagan.*) Common in the St. Lawrence at Prescott. (*Billings.*) Grenadier Pond, near Toronto. (*A. Fowler.*) Abundant in the Bay of Quinte and in still water in all the rivers of Ontario and lake expansions on them; head of the canal at the Sault Ste. Marie, and westward to the head of Lake Winnipegoosis near Point Wilkins. (*Macoun.*)

CI. CONIFERÆ. PINE FAMILY.

562. THUYA, Linn. (ARBOR-VITÆ.)

(2062.) **T. occidentalis,** Linn. White Cedar.

Widely distributed in Quebec and Ontario, where it forms extensive "swamps" in hollows where springs abound. Another favorite haunt is river banks, where its roots can enter the crevices and obtain moisture, although no earth may cover the bare rock. Very rare in Nova Scotia. In a swamp within three miles of Annapolis, but said to grow on the Bay of Fundy side of North Mountain, near that place. (*Macoun.*) Common throughout New Brunswick. (*Fowler's Cat.*) On the route from Lake St. John to Lake Mistassini it reaches, as a

fair-sized tree, to within twenty miles of the lake; at the Hudson Bay Co.'s Post it appears as a small shrub, and is wholly wanting on Rupert River. (*J. M. Macoun.*) It is found at Rupert House, James Bay, and in the neighborhood of Moose Factory. The northern limit crosses the Albany at some distance from the sea, and continues westward to a point about seventy-five miles south-west of Trout Lake, where it turns south-west and reaches the southern extremity of Lake Winnipeg, thence it turns south to the United States boundary. (*R. Bell.*) A few trees are found near the mouth of the Saskatchewan, and the last of it is seen on Cedar Lake, in that river, in lat. 53°.30'. (*Cochrane.*)

(2063.) **T. gigantea,** Nuttall. Western White Cedar.

T. plicata, Don. Nuttall Sylva, III., 103.
T. Menziesii, Douglas. Gordon Pinetum, 323.

This is one of the finest trees of Western America, both as regards height and diameter. On the line of the Canadian Pacific Railway it first appears as a shrub on the mountains about Kicking Horse Lake, at an altitude of 6,000 feet, going westward down the valley of the Kicking Horse it soon becomes a small tree, but in the Columbia valley is rather scarce until about ten miles below Donald, where it forms large groves, and in the valleys of Beaver Creek and the Illecillewaet, in the Selkirk Mountains it reaches a height of over 150 feet, with a diameter of frequently over ten feet. (*Macoun.*) It occurs abundantly and well-grown in the lower parts of the lateral valleys of the Columbia-Kootanie valley, on the north-east side, south of the Kicking Horse, but does not descend into the last-named great valley, which has a comparatively dry climate. In British Columbia this tree abounds along the coast and lower parts of the rivers of the Coast Range, northward to Alaska, but is unknown in the dry central plateau, yet it appears abundantly on the slopes of the Selkirk and Gold Ranges. On the Salmon River the cedar ceases at forty-five miles from the head of Dean Inlet, at an elevation of 2,400 feet, though, like the hemlock, it is again found sparingly, and in a stunted form in the lower part of the Iltasyouco valley, east of the range. On the Homathco it ceases at a distance of sixty-three miles from the coast at an elevation of 2,720 feet. On the Uz-tli-hoos it ends, with the hemlock, at about six miles above Boston Bar; on the Coquihalla, just south of the summit between that river and the Coldwater. Cedars are also found sparingly on the Skaist River, or east branch of the Skagit, and a few were observed on the banks of the Similkameen, about thirteen miles below Vermilion Forks. It extends westward from the flanks of the Gold Range, in the Coldstream valley, sparingly, to within eight miles of

the head of Okanagan Lake. It abounds round the shores of the north-eastern part of Shuswap Lake, and in the North Thompson valley, to about twenty miles below the mouth of the Clearwater. It is said that there is a grove of trees of this species on the Fraser below Fort George, and Sir Alexander Mackenzie (1793) found it growing, in company with the hemlock, at the head waters of the Parsnip. It also occurs in the valley of the Quesnel. (*Dawson.*)

(2064.) **T. excelsa,** Bongard. Yellow Cypress.

Cupressus Nutkaensis, Hook. Fl. II., 165. Macoun's Cat. No. 1705.
Chamæcyparis Nutkaensis, Spach. Nutt. Sylva III., 105.

This tree is closely confined to the vicinity of the coast and adjacent islands. It is also found about Burrard Inlet, on the slopes of the mountains, several hundred feet above the sea level. On Silver Mountain, near Yale, Mr. Sargent describes a few large trees as occurring at 4,000 feet elevation, and many smaller ones extending up to 5,500 feet. Further north it descends to the coast. It also occurs in the interior of Vancouver Island, being found sparingly on the shores of the Nimpkish or Karmutzen Lake, and generally on plateaux and mountains a short distance inland on the northern part of the island. It reaches the sea-level in the northern part of Queen Charlotte Sound, and is abundant in some parts of Queen Charlotte Islands, particularly on the west coast. It sometimes exceeds six feet in diameter. (*Dawson.*) Sitka, south along the islands and coast ranges of British Columbia. (*Sargent.*) Sitka and Southern Alaska. (*Rothr. Alask.*)

(2065.) **T. sphæroidea,** Sprengel. White Cedar.

Cupressus thyoides, Linn. Michaux Fl. II., 208. Proc. Nov. Scot. Inst. Vol. IV., Pt. II., 209.
Chamæcyparis sphæroidea, Spach. Sargent, Forest Trees N. Am., 177.

Cape Breton Island and Three-Mile House, near Halifax, N.S. (*Lawson.*) Whether planted or indigenous at the above points we have no means of determining, but one beautiful tree is growing at Windsor, Ont., where it was planted many years ago. (*Macoun.*)

563. JUNIPERUS, Linn. (JUNIPER.)

(2066.) **J. occidentalis,** Hook. Western Red Cedar.

J. excelsa, Pursh, Fl. I., 647.
J. Virginiana, Linn. Macoun's Geol. Sur. Rep. 1875-76.

Without hesitation, I place all our western "red cedar" under this species, because it differs both in leaves, wood and fruit from the east-

ern form. Not uncommon, *in bogs*, in the Columbia valley, near Donald, and in an old beaver-meadow at the mouth of Beaver Creek, thirteen miles below Donald, B.C. (*Macoun.*) On rocky soil along the shores of Kamloops, François and other lakes, and elsewhere, with a diameter of about one foot. Not infrequent on rocky points on Vancouver Island and small islands in the Gulf of Georgia. (*Dawson.*)

(2067.) **J. Virginiana,** Linn. Red Cedar.

J. Barbadensis, Michx. Fl. II., 246.

Partridge Island, Parsboro, N.S. (*How.*) Rather uncommon at Ottawa, but extending both above and below the city. (*Fletcher, Fl. Ott.*) This species is confined in Ontario to rocky river banks, ascending all the rivers entering the St. Lawrence and great lakes between Montreal and Parry Sound. Very abundant in the Bay of Quinte district, covering large areas along its shores, even at the present time. Although ascending the rivers for many miles, it is never found away from their rocky shores, and on the Niagara peninsula, where it is still tolerably abundant, it delights in rocky soil. (*Macoun.*) Port Colborne, Point Abino and Fort Erie, Ont. (*David F. Day.*) Sandy and rocky ground, Kingston, and at Niagara Falls, Ont. (*Burgess.*) This tree crosses the St. Lawrence about mid-way between Montreal and Lake Ontario, and reaches Lake Huron at Parry Sound. (*R. Bell.*)

(2068.) **J. communis,** Linn. Common Juniper.

This species, under either its common or alpine form, is found from the bleak rocks of Labrador to the coast of the Pacific. At one time on an exposed shore, at another on a mountain top, beside the cataract, and again on the shore of a lonely lake, it greets the wanderer wherever he may be, and yet it is nowhere abundant. On Point Pleasant, Halifax, N.S.; also Sydney, Cape Breton Island. (*Lawson & How.*) Dry pastures and barren hills, St. John Co., N.B. (*Fowler's Cat.*) Charlotte, King's Co., N.B. (*Hay.*) Frequent on the shores of the St. Lawrence River and Gulf from the Island of Orleans to the Straits of Belle Isle. (*St. Cyr.*) Throughout Ontario and westward across the prairie to the Rocky Mountains, where it assumes the next form. (*Macoun.*) North fork of Old Man River, foot-hills, Rocky Mountains. (*Dawson.*) In the most exposed and sterile situations. (*Hooker.*)

Var. **alpina,** Linn.

J. nana, Willd. Rothr. Alask. 455.
J. communis, var. *nana,* Hook. Fl. II., 165.

Very few collectors separate this form from the preceding, and we

are uncertain of its range. Lake Mistassini. (*J. M. Macoun.*) Summit of Mount Albert, Shickshock Mountains, Gaspé; Blackfoot Crossing, Bow River, Alberta; also mountain woods from Silver City, in Rocky Mountains, westward to the summit of the Selkirk Mountains, Lat. 51°, B. C. (*Macoun*). South Kootanie and North Kootanie Passes, Rocky Mountains. (*Dawson.*) Sitka. (*Rothr. Alask.*)

(2069.) **J. Sabina,** L. var. **procumbens,** Pursh. Creeping Juniper.

J. Sabina, var. *β. humilis,* Hook. Fl. II., 166.
J. prostrata, Pers. Rich. App. 38.
Cupressus thyoides, Hook. Fl. II., 165.

Abundant on exposed slopes and river banks from Anticosti, Nova Scotia, New Brunswick, Quebec and Ontario, across the prairie region to the summit of the Rocky Mountains at Kicking Horse Lake. In the east it is usually found along rivers and lakes, creeping down the banks or lying flat on the sand or rocks; on the other hand, on the prairie, it often covers wide areas of level, sandy ground, to the almost total exclusion of other vegetation.

564. TAXUS, Linn. (YEW.)

(2070.) **T. brevifolia,** Nutt. Western Yew.

T. baccata, Hook. Fl. II., 167, in part.
T. Lindleyana, Murray, Lawson Cat. 1855, 15.

This tree occurs on Vancouver Island, and on the shores of the mainland adjacent, attaining sometimes a diameter of two feet. It is found as large as eighteen inches in diameter on the Fraser, as far up as Chapman's Bar, near the Suspension Bridge. It also occurs on the Coquihalla, for twenty miles above Hope, and is found on the Lower Skeena. Not found, or very sparingly, on Queen Charlotte Islands. (*Dawson.*) Forming much of the underwood in woods west of the Columbia and up Beaver Creek, in the Selkirk Mountains, at an altitude of 3,500 to 4,000 feet. This may be the next species. (*Macoun.*)

(2071.) **T. baccata,** L. var. **Canadensis,** Gray. American Yew.

T. baccata, Linn. Hook. Fl. II., 167.
T. Canadensis, Willd. Pursh. Fl. I., 647.
T. baccata, var. *minor.* Michx. Fl. II., 245.

Rather common in cool, damp woods in many parts of the forest country, extending from Newfoundland, Anticosti and Nova Scotia, where it is abundant, through New Brunswick, Quebec and Ontario; on the shore of Lake Huron it often forms impenetrable thickets, and

acts as an excellent wind-break along the Bruce Peninsula; passing to the west, it still continues abundant north of Lake Superior and at least to Lake Winnipeg. (*Macoun.*) Collected on Nelson River and at York Factory. (*R. Bell.*)

565. PINUS, Linn. (PINE.)

(2072.) **P. Strobus,** Linn. White Pine.

One of our most valuable and widely spread trees, extending from Newfoundland, Anticosti, Nova Scotia and New Brunswick, throughout Quebec and Ontario, and reaching nearly to Lake Winnipeg. Dr. Bell places its eastern limit on the north shore of the St. Lawrence at Mingan; thence it passes westerly and northerly round the head of Lake St. John, and, still keeping to the north, is found on the head waters of the Moose River. In the country north of Lake Superior it is very scarce; in fact, has no existence on the line of the Pacific Railway, and only a few trees occur on Nipigon River. (*Macoun.*) It is scattered over the country between Lake Superior and the Winnipeg River and around Lonely Lake, but is of rather small size. In approaching Lake Winnipeg, the limiting line of the tree curves to the south-westward, and crosses the Winnipeg River about fifteen miles above Fort Alexander, and then runs south to Lat. 49°, a little east of Red River. (*R. Bell.*)

(2073.) **P. monticola,** Douglas. Western White Pine.

P. Strobus, var. *monticola*. Nutt. Sylva III., 118.
P. porphyrocarpa, Lawson. Pinetum Brit. I., 8.
P. Strobus, Hook. Fl. II., 161, in part.

Passing west on the line of the Canadian Pacific Railway in the Rocky Mountains, this tree is first met with on the slopes of the Columbia valley, near Donald. Thence westward, it becomes more plentiful along Beaver Creek, in the Selkirk Mountains, but never very common, although becoming a fine tall tree on the mountain sides. (*Macoun.*) This tree is found on the Hope-Similkameen trail, some miles beyond the summit, on the Sumallow, about the summit between the Coquihalla and Coldwater, on the Hope-Nicola trail, and to the west bank of the Spioos at the trail-crossing. On the Homathco River it disappears at fifty-one miles from the sea, at an elevation of 2,235 feet. It reappears in the region of heavy rainfall of the Gold Range, being abundant at Cherry Creek and on the shores of the Great Shuswap and Adam's Lake. Sparingly in the valley of the Tobacco River and other streams south of the Kicking Horse and north-east of

the Columbia-Kootanie valley. In certain districts of the interior of Vancouver Island this tree is abundant, and is found in all parts of the southern portions of the Coast Range where there is an abundant rainfall. It has not been observed on Queen Charlotte Islands, though it may exist there. (*Dawson.*)

(2074.) **P. flexilis,** James. Rocky Mountain Pine.

A few trees are found along the Bow River, on both sides, from a few miles above Calgary to Morley, and a few others at Kananaskis station, in the foot-hills of the Rocky Mountains. (*Macoun.*) Found also in the eastern and lower part of the South Kootanie Pass, and on tributary valleys of the Old Man in the foot-hills. Probably also on lateral valleys of the Fraser, near Lillooet and elsewhere, though not always distinguished from the next species. (*Dawson.*)

(2075.) **P. albicaulis,** Engelm. White-barked Pine.

P. Lambertiana, var. β. Hook. Fl. II., 161.
P. flexilis, Lyall in Jour. Linnæan Soc. VII., 142.
P. flexilis, var. *albicaulis*, Engelm. Bot. California II., 124.

On the Rocky Mountains, at an altitude of from 6,000 to 7,000 feet, extending westward from Castle Mountain to the summit of the Selkirk Range. (*Macoun.*) "Height of Land," in the Rocky Mountains, Lat. 52°. (*Drummond.*) Between the Bow Pass and the 49th parallel in the Rocky Mountains, everywhere; not uncommon at considerable elevations and near the timber-line. Sweet Grass Hills, Lat. 49°. Observed in the Coast Range of British Columbia as far north as the Iltasyouco River, Lat. 53°. Occurs in the mountains south of the upper part of the Dean or Salmon River, within the Coast Range. On the summit of Iron Mountain, at the junction of the Coldwater and Nicola. Noted by Mr. Sargent on Silver Mountain, near Yale, at 5,000 feet elevation. (*Dawson.*)

(2076.) **P. resinosa,** Aiton. Red Pine.

P. rubra, Michx. N. American Sylva II., 244, 1819.

This tree is not so widely distributed as the white pine, and much more local, as it delights in the poorest soil, especially that formed by the Algoma sand formation, lying amongst the Huronian rocks or forming "plains" to the south of them. Pictou county, N.S. (*McKay.*) Very abundant on extensive sandy plains at Kingston, on the Windsor and Annapolis railway, N. S. (*Macoun.*) Abundant in many places in old forests, New Brunswick. (*Fowler's Cat.*) Tobique River, and on the New Brunswick and Canada Railway, fifty miles from St. Andrews, N.B. On the upper part of the Patapedia River, in

eastern Quebec. (*R. Bell.*) At Sillery, near Quebec, and at the River Pentecote, Q. (*St. Cyr.*) At the head of Lake St. John, Q., Lat. 48°. (*Michaux.*) A few trees still exist at Ottawa, but up the river it is quite plentiful, and in the sandy region around Chalk River, and west of it, the greater part of the forest growth is of this species. The Rice Lake plains were chiefly covered with this tree, as well as all the sandy tracts in Central Ontario. Fine groves can be seen on the Canadian Pacific railway as far west as Dog Lake, but after this it becomes rare, and the last one disappears at Birch Lake, about fifty miles to the west. A few trees appear again on the Nipigon River, and small groves are found westward of Lake Superior, to the Lake of the Woods and Winnipeg River; also on sandy ridges in the Muskeg country west and south-west of the Lake of the Woods. (*Macoun.*) Sandy soil around Toronto, and on sand and rock at Parry Sound, Muskoka, Ont. (*Burgess.*)

(2077.) **P. ponderosa,** Dougl. var. **scopulorum,** Engelm. in Bot. California II., 126.

P. resinosa, Hook. Fl. II., 161, in part.
P. ponderosa, Dougl. Macoun's Cat. No. 1694. Also, Dawson.

A remarkably handsome tree, characteristic of the central and southern dry region of British Columbia, occurring between the Coast Ranges and line of the Gold and Selkirk Ranges, from the 49th parallel northward to Latitude 51° 30′; also in the Columbia-Kootanie valley, as far north as the head of the Upper Columbia Lake. References to occurrences east of the Rocky Mountains north of the 49th parallel (Report of Progress, Geological Survey, 1879-80, p. 172 B) not confirmed, and probably erroneous. On the Similkameen, this tree is found furthest west three miles above Nine-Mile Creek. On the Coldwater it reaches to eighteen or twenty miles from the Nicola; down the Fraser, to thirty miles above Yale, and northward on the main waggon-road to "the Chasm," beyond Clinton. It extends for about forty miles up the North Thompson, is found on the northern slopes of the south-western arm of the Great Shuswap Lake, and also sparingly on the southern part of the Salmon arm. West of Okanagan Lake (toward Cherry Creek), nearly to the Camel's Hump Mountain. (*Dawson.*)

(2078.) **P. contorta,** Dougl. Scrub Pine.

P. inops, Hook. Fl. II., 161, in part.
P. Banksiana, Lindley & Gordon, Jour. Hort. Soc., London, V., 218, in part.

Everywhere on the coast of British Columbia, but particularly on sandy dunes and exposed rocky points, where it is frequently gnarled

and stunted. Where sheltered or growing in dense groves, it assumes much the habit of the next species. On the Queen Charlotte Islands it was scarcely seen, except on the western coast, and was not observed near the water-level on the lower Skeena. (*Dawson.*)

(2079.) **P. Murrayana,** Balfour. Black Pine.

P. contorta, Macoun's Cat. No. 1679, in part.
P. contorta, var. *latifolia,* Dawson in Canadian Nat., new ser., IX., 328.
P. inops, Hook. Fl. II., 161, in part.
P. —— Sp. I., Bourg. in Palliser's Report, 260.

On the east side of the Rocky Mountains, this species was first noticed in the alpine woods between the Athabasca River and Lesser Slave Lake; thence southward it is found on the gravelly slopes of the mountains and foot-hills, at an altitude of about 4,000 feet. Fine groves are found at the western end of the Cypress Hills, but they never descend more than 500 feet below the summit. On the line of the Canadian Pacific Railway it is abundant, both in the Bow valley and on the mountain sides, amongst gravel, especially at Silver City, and westward to Laggan. In the Columbia valley it covers wide areas of poor soil at Donald, and is seen on all the lower slopes of the mountains on the east side of the river. (*Macoun.*) This is the characteristic tree over the northern part of the interior plateau of British Columbia, and densely covers great areas. In the southern part of the province it is found abundantly on parts of the plateau and hills which rise above the height of 3,500 feet, where the rainfall becomes too great for the healthy growth of *P. ponderosa.* It grows also abundantly on the sandy benches and river-flats at less elevations. Dall states the northern limit of this tree to be on the Youcon, at Fort Selkirk, Latitude 62°. In the Peace River region it crosses the Rocky Mountain range, and occurs, more or less abundantly, over a great area, generally on the higher plateaux with poor soil. It is replaced by the Banksian pine at the water-shed between the Athabasca and Saskatchewan, south of Athabasca Landing. Abundant southward in the Rocky Mountains to the 49th parallel, and extending into the adjacent foothills. In the interior of British Columbia it often forms dense groves, the trees being 60 to even 100 feet in height, but seldom exceeding a diameter of two feet. It does not extend upward to the timber limit in the Rocky Mountains. Found also in the Sweet Grass Hills. (*Dawson.*)

(2080.) **P. rigida,** Miller. Pitch Pine.

Valley of the St. John River, New Brunswick, to the northern shores of Lake Ontario. (*Sargent.*) I have never seen this tree in any part of Ontario, except on the Thousand Islands, in the St. Lawrence, near Alexandria Bay. (*Macoun.*)

(2081.) **P. Banksiana,** Lambert. Scrub Pine.

P. sylvestris, var. *divaricata,* Aiton Hort. Kew, III., 366.
P. rupestris, Michx. N. American Sylva II., 250, 1819.

This tree extends from Halifax, in Nova Scotia, north-westerly to the Athabasca River, near old Fort Assiniboine, and northerly down the Mackenzie River to the arctic circle. In the east it scarcely forms a tree, but on the Ottawa, at Petewawa and Chalk River, it is one of some size. North of Lake Superior, it forms groves of tall trees, which become taller and finer on the Dawson Route; westward of Lake Winnipeg and north of the Saskatchewan, it equals the red pine of the east in height and diameter. It is so well-grown on the Clearwater River, north of Methy Portage, that Sir John Richardson confounded it with *P. resinosa* in his list of trees and shrubs of British America. (*Macoun.*) Starting from the head of the Bay of Chaleurs, its northern limit seems to be Lake Mistassini, from which it runs west to the Moose River, keeping about 100 miles south of James Bay. It does not touch either James or Hudson Bay. (*R. Bell.*) Abundant, though of small size, in most of the country around Lake Mistassini and down the Rupert River as far as Lake Nemiskow. (*J. M. Macoun.*) Two trees only have been observed near Ottawa, one found on King's Mountain, Chelsea, P.Q., by Mrs. J. G. Bourinot, and one near the Mer Bleue at Eastman's Springs. (*Fletcher.*)

566. PICEA, Link. (SPRUCE.)

(2082.) **P. nigra,** Link. Black Spruce.

Pinus nigra, Ait. Hook. Fl. II., 163.
P. rubra, Lam. Hook. Fl. II., 164.
Abies denticulata, Michx. Fl. II., 206.
A. nigra, Poir. Gray, Man. 471, 1868. Macoun's Cat. No. 1688.
A. rubra, Poir. Lindley & Gordon in Jour. Hort. Soc., London, V., 211.
A. nigra, var. *rubra,* Michx. N. America Sylva. 3rd ed., III., 111.

This tree is abundant in Newfoundland and in every part of Canada, except southern Ontario and the prairie region. It climbs highest on the Shickshocks, in Gaspé, and creeps the closest of any of our conifers to the cold waters of the Labrador coast and Arctic Sea. At its northern and southern limit it nearly loses its tree form, becoming in the north a bush, while in the south, in the deep swamps, it is little larger than a hop-pole. From Lake Winnipeg, westward, it becomes a magnificent tree, averaging from two to three feet in diameter and rising to a height of eighty feet. North of the Saskatchewan and south of Lakes Manitoba and Winnipegoosis, it covers large areas, while in the Beaver and Athabasca valleys it is even larger, and descends the latter

stream to Lake Athabasca (Lat. 59°), still maintaining its fine proportions. It is probably a mistake to give the habitat of this species and the next as being coincident, and to extend the range of the next into northern Labrador and the barren grounds west of Hudson Bay, as all specimens of spruce obtained from Labrador and the far north are this species. (*Macoun.*) Newfoundland, Nova Scotia and throughout Canada to Lat. 65°, where it terminates with *Betula papyracea.* (*Richardson.*) Very likely a common tree in Northern British Columbia, having been observed on the Blackwater and other rivers up to Lat. 55°. (*Dawson.*)

(2083.) **P. alba,** Link. White Spruce.

Pinus alba, Poir. Hook. Fl. II., 163.
Abies alba, Poir. Michx. Fl. II., 207. Macoun's Cat. No. 1689.
Abies rubra, var. *cærulea*, Lindley & Gordon in Jour. Hort. Soc., London, V., 211.
Abies arctica, Murray in Sullann's Jour. Bot. V., 253 and 69.

This species is easily recognized and separated from the preceding by the difference of the cones. In the former they are quite short, seldom an inch long, and the scales are eroded and deep purple, even when quite old. On the other hand, this species has narrow, drooping cones, never under an inch in length, and the scales pale straw-color or brown at maturity. Regarding the distribution, I can only say that Sir John Richardson and Prof. Sargent assert that this species is really the northern one, while I, on the other hand, hold the contrary opinion. I have specimens from Truro, N.S., from Gaspé, from Nipigon, north of Lake Superior, from various points on the prairie, and from the foot-hills and lower slopes of the Rocky Mountains, but not one from north of the Saskatchewan, except Dr. Dawson's, from the Athabasca; all the specimens from that quarter and northern British Columbia being most decidedly black spruce. In habit, this tree is totally different from *P. nigra.* While the latter loves damp localities, this species prefers comparatively dry woods and is found mixed with poplar, birch, and other trees. On the prairies, it is found on sand-hills and dry slopes of river banks, and this being the case, it is not reasonable to expect it to take to cold and damp localities in the north, when, reasoning from the habits of others, we should expect it to affect even drier situations. Time will settle all these points, but no reliance should be placed on any statement not founded on examination of the fruit. Without doubt, this species, ranges from Newfoundland, Anticosti, Nova Scotia and New Brunswick, through Quebec and Ontario, westward to the forest limit of Manitoba. In the prairie region it is found on the sand-hills bordering the first prairie steppe. Occasional trees are met with in the Saskatchewan valley, and in the ravines of the

Cypress Hills are numerous small groves. It ascends the Bow River from Calgary, and becomes intermixed with *P. Engelmanni* at Silver City, within the Rocky Mountains. (*Macoun.*) On the Athabasca in Latitude 54° 7′ 34″, Longitude 118° 48′. (*Dawson.*) Throughout Nova Scotia and Canada, to within twenty miles of the Arctic Sea, and on the Coppermine River; in Lat. 67½° it attains a height of twenty feet or more. (*Richardson.*)

(2084.) **P. Engelmanni,** Engelm. Engelmann's Spruce.

Abies nigra, Engelmann in Am. Jour. Sci., 2nd series, XXXIII., 330.
A. Engelmanni, Parry. Macoun's Cat. No. 1694.

This species is first met with in the Bow River valley, on the line of the Canadian Pacific Railway, about the Cascade Mountain, but does not completely supersede *P. alba* until we pass Castle Mountain. At Laggan and all points westward it is the only spruce, and at Kicking Horse Lake there are groves containing many fine trees. In the Columbia valley and all valleys of the Selkirk Mountains, it grows to a great size, often being four feet in diameter and having an average height of over 150 feet. It is more a tree of the valleys than of the mountains, seldom ascending above 6,000 feet. It is possible that another species which we now refer to *P. alba*, belongs here. (*Macoun.*) This tree appears to characterize the interior plateau and eastern part of the Province of British Columbia, with the exception of the dry southern portion of the former, and forms dense groves in the mountains. It borders nearly all the streams and swamps in the northern portion of British Columbia between about 2,500 and 3,500 feet elevation, and forms dense groves in the valleys of the Rocky Mountains. In the north-eastern part of British Columbia, varieties occur which, according to Prof. Engelmann, who has examined my specimens, are indistinguishable from *P. alba*, and in some places in the Peace River basin these varieties preponderate. Specimens collected on the Peace River plateau (Lat. 55° 46′ 54″, Long. 120′, altitude 2,600 feet), are still referrable to *P. Engelmanni*, but trees on the Athabasca (Lat. 54° 7′ 34″, Long. 118° 48′) belong to *P. alba*. The northern and north-eastern range of Engelmann's spruce is, therefore, indeterminate. (*Dawson.*)

(2085.) **P. Sitchensis,** Carr. Western Spruce. Menzies' Spruce.

Pinus Sitchensis, Bong. Hook. Fl. II., 164.
Abies Menziesii, Lindley. Macoun's Cat. No. 1693.
Pinus Menziesii, Douglas. Hook. Fl. II., 162.
Abies Sitchensis, Lindley & Gordon in Jour. Hort. Soc., London, V., 212.

This tree seems to be confined chiefly to the immediate vicinity of the coast of British Columbia, where it attains a large size, and is, to

some extent, used as lumber. It was, however, observed on the summit between the Coldwater and Coquihalla Rivers (3,280 feet); also on the Nicolume, a few miles beyond the summit, between that stream and the Sumallow, and on the west side of the Spioos, near the trail crossing. It was noted (doubtfully) on the summit between the forks of the Skeena and Babine Lake. (*Dawson.*)

567. TSUGA, Carr. (HEMLOCK.)

(2086.) **T. Canadensis,** Carr. Hemlock.

Pinus Canadensis, Linn. Hook. Fl. II., 164.
Abies Canadensis, Desf. Macoun's Cat. No. 1697.

Very abundant on cold soils in many parts of Nova Scotia and New Brunswick, and throughout Quebec and Ontario. It is everywhere a fine large tree, and would be more valued were pine not so plentiful. (*Macoun.*) Its northern limit crosses the St. Lawrence a little below Quebec, and passes thence to the north end of Lake Temiscamang, on the Ottawa River, and from there to the eastern extremity of Lake Superior at Agawa, south of Michipicoten River. (*R. Bell.*)

(2087.) **T. Mertensiana,** Carr. Western Hemlock.

Pinus Mertensiana, Bong. Hook. Fl. II., 164.
P. Canadensis, Bong. var. *β.* Hook. Fl. II., 164.
Abies Mertensiana, Lindl. Macoun's Cat. No. 1691.
A. Albertiana, Murray. Proc. Hort. Soc., London, III., 149.
Pinus Pattoniana, McNab, Proc. Royal Irish Acad., 2nd series, II., 211-212.
Abies Pattonii, McNab in Jour. Linnæan Soc., XIX., 208.

On the line of the Canadian Pacific Railway, this tree was noticed furthest east in the valley of the Columbia, at Donald, but it is, no doubt, abundant on the mountain slopes about 1,000 feet above the river. Few of these trees are noticed along Beaver Creek valley, on the line of the road, until Stony Creek is reached, at an altitude of 3,500 feet. Thence to the Selkirk summit scarcely any other tree is seen, and ascending the mountain side above this line, anywhere along Beaver Creek, it is always met with. In the Selkirk Mountains it is a tall, beautiful tree, over 150 feet high and often very large. (*Macoun.*) The hemlock occurs everywhere in the vicinity of the coast of British Columbia, and extends up the valley of the Fraser and other rivers to the limit of the region of abundant rainfall. It re-appears in the Selkirk and Gold ranges, where sufficient moisture for its growth is again found. The tree attains a large size on the coast, reaching a height of 200 feet, and yields a good wood, but has not yet

been much used. On the Queen Charlotte Islands it is particularly abundant and large. On the Salmon River, running into Dean Inlet, it is not found in abundance beyond eighteen miles from the sea, at an elevation of about 600 feet. It occurs again, however, sparingly, on the lower part of the Iltasyouco River, a tributary of the last, within the Coast Range. On the Homathco River, flowing into Bute Inlet, it ceases at fifty-three miles from the sea, at an elevation of 2,320 feet. On the Uz-tli-hoos (north-east branch of the Anderson, followed by the trail from Boston Bar to Nicola,) it extends to a point six to ten miles east of the Fraser; on the Coquihalla to the summit between that river and the Coldwater. It is mentioned by Sir A. Mackenzie (Voyages, p. 223) as occurring at the head-waters of the Parsnip (about Lat. 54° 30′). This is the most northern locality yet known. (*Dawson.*)

(2088). **T. Pattoniana,** Engelm. Hemlock.

Abies Pattoniana, Jeffrey, Gray in Proc. Am. Acad., VII., 402.
A. Hookeriana, Murray. Veitch Man. Conif., 115.
A. Williamsonii, Vasey Cat. Forest Trees, 33.

Valley of the Fraser River, on Silver Mountain, Yale, and probably much further north as it is an alpine tree varying from an elevation of 2,700 feet in British Columbia to 10,000 feet in California. (*Sargent.*)

568. PSEUDOTSUGA, Carr. (RED FIR.)

(2089.) **P. Douglasii,** Carr. Douglas Fir.

Pinus taxifolia, Lambert. Pursh, Fl. I., 640.
Abies Douglasii, Lindley. Macoun's Cat. No. 1692.
A. mucronata, Raf. Lindley & Gordon in Jour. Hort. Soc., London, V., 213.
Pinus Douglasii, Lambert. Hook. Fl. II., 162.
Abies Douglasii, var. *taxifolia,* Gordon, Pinetum, 16.

This tree is found on all parts of Vancouver Island, with the exception of the exposed western coast, but does not occur on the Queen Charlotte Islands or coast archipelago to the north of Vancouver. On the mainland, near the 49th parallel, it extends from the coast to the Rocky Mountains, growing at a height of 6,000 feet in a stunted form. It occurs on the eastern slopes of the Rocky Mountains on the 49th parallel, and is abundant in the foot-hills further north, and on the Porcupine Hills. On the Bow River, it extends east to the vicinity of Calgary. In the dry southern portion of the interior of British Columbia it is generally confined to the higher uplands between the various river valleys, northward it descends to the general level of the country.

It does not extend into the mountainous and comparatively humid region of Cariboo, and is probably absent from the higher portions of the Selkirk and Gold ranges generally. Its northern line is singularly irregular. It is found about Fort George, and north-eastward as far as McLeod's Lake, but does not occur on the Parsnip. It extends about halfway up Tacla Lake, and on Babine Lake to the bend or knee. A few specimens occur on the Skeena River. It is common about François and Fraser lakes. It is found from the Fraser to the Coast Range on the line of the Chilcotin and its tributaries, and occurs on the Nazco and up the Blackwater to the mouth of the Iscultaesli, but is absent from an extensive tract of country bounded by the last named localities to the south and east, and extending northward to François Lake. It occurs abundantly on the coast of the mainland as far north as the north end of Vancouver Island, but beyond that point is found only on the shores of the inlets at some distance from the sea. It is found on the upper part of Dean Inlet and on the Salmon River which runs into this inlet, but at about forty-five miles from the salt-water becomes small and stunted, and, as above stated, is not seen in that part of the interior lying to the eastward. Its north-eastern limit in the Rocky Mountain range is still somewhat uncertain. The best grown specimens are found near the coast, in proximity to the waters of the many bays and inlets which indent it. Here the tree frequently surpasses eight feet in diameter, at a considerable height above the ground, and reaches a height of 200 to 300 feet, forming prodigious and dark forests. (*Dawson.*)

569. ABIES, Juss. (BALSAM.)

(2090.) **A. balsamea,** Miller. Canada Balsam Fir.

Pinus balsamea, Linn. Hook. Fl. II., 163.
A. balsamifera, Michx. Fl. II., 207, in part.

Abundant in swamps throughout the eastern provinces, and a common tree in every part of Quebec and Ontario. It seems to need a constant supply of water at its roots, as many die in exceptionally dry seasons, while white spruce in the same localities remains uninjured. Canada and Nova Scotia to the Saskatchewan. (*Richardson.*) In the country around Lake Mistassini it grows mixed with aspen, birch and white spruce, and on the lower part of the Rupert River it is found growing with the same trees all the way to James Bay. (*J. M. Macoun.*) It occurs around James Bay, but its northern limit keeps to the south-west of Hudson Bay, where it passes between Fort Severn and Trout

Lake, and reaches the neighborhood of the junction of the Shammattawa and Steel Rivers, which form the Hayes River. From this point it turns south-west and crosses the Nelson River at the outlet of Sipiwesk Lake. (*R. Bell.*) Both Dr. Bell and Professor Sargent give the range of this tree to Lat. 65°, which is evidently a mistake, as Sir John Richardson states its limit to be in Lat. 62°. Sir William Hooker, in his Flora places the limit on the Saskatchewan, while we have found it on the Athabasca River in Lat. 58°. (*Macoun.*)

(2091.) **A. subalpina,** Engelm. Mountain Balsam.

Pinus lasiocarpa, Hook. Fl. II., 163.
Picea amabilis, Gordon, Pinetum, 154, in part.
A. bifolia, Murray, In Proc. Hort. Soc., London, III., 320.
A. grandis, Engelm. in Am. Jour. Sci., 2nd ser., XXXIV., 310.
Pinus amabilis, Parlatore in De Candolle Prod. XVI., 426, in part.
Picea bifolia, Murray in London Gard, Chronicle, 1875, 105.

Interior of north-west America, last journey. (*Douglas.*) On the summit of the House Mountain, south of Lesser Slave Lake; abundant in the Bow River Pass on mountain slopes from 5,000 to 7,000 feet altitude, extending on the line of the Canadian Pacific railway from Castle Mountain to the Selkirk summit. (*Macoun.*) Appears to take the place of *A. grandis* in the region east of the Coast ranges in British Columbia. It is not found in the southern dry portion of the interior plateau, but grows abundantly in the Gold and Selkirk ranges, and in the Rocky Mountain region east of McLeod's Lake. Elsewhere in the northern portion of the interior plateau it occurs in scattered groves, generally in localities nearly reaching or surpassing 4,000 feet, but even in low valleys in the eastern portion of the Coast ranges. It crosses the Rocky Mountains in the Peace River district, and occurs in cold damp situations in the country between Lesser Slave Lake and the Athabasca River. In high and cool valleys in the Rocky Mountains, southward to the 49th parallel, reaching upward to the timber-line. (*Dawson.*)

(2092.) **A. grandis,** Lindley. Western White Fir.

Pinus grandis, Dougl. Hook. Fl. II., 163.
Picea grandis, Loudon. Gordon, Pinetum, 155.
A. Gordoniana, Carr., Trait. Conif., 2nd ed., 298.
A. amabilis, Murray, in Proc. Hort. Soc., London, III., 310.

In British Columbia, confined to the vicinity of the coast, where its range appears to be even more strictly limited than that of the cedar or hemlock. (*Dawson.*)

(2093.) **A. amabilis,** Forbes. White Fir.

Pinus amabilis, Dougl., in Companion Bot. Mag., II., 93.
Picea amabilis, Loudon. Gordon, Pinetum, 154.
A. grandis, Murray in Proc. Hort. Soc., London, III., 308.
A grandis, var. *densiflora,* Engelm. in Trans. St. Louis Acad., IV., 599.

Dean or Salmon River, B. C., June 24th, 1876. (*Dawson.*) Valley of the Fraser River, on Silver Mountain, Yale. (*Engelmann & Sargent.*) Prof. Sargent suggests that this tree may in some cases have been confounded with *A. subalpina,* in British Columbia, which is more than likely. (*Dawson.*)

570. LARIX, Mill. (TAMARACK, LARCH.)

(2094.) **L. Americana,** Michaux. Tamarack, Black Larch.

Pinus pendula, Aiton. Hook. Fl. II., 164.
P. microcarpa, Lambert. Hook. Fl. II., 164.
Abies pendula, Poir. Lindley & Gordon in Jour. Hort. Soc., London, V., 213.
A. microcarpa, Poir. Lindley & Gordon in Jour. Hort. Soc., London, V., 213.
L. tenuifolia, Salisbury in Trans. Linnæan Soc., VIII., 313.
L. pendula, Salisbury in Trans. Linnæan Soc., VIII., 313.
L. microcarpa, Desf. Gordon, Pinetum, 129.
L. intermedia, Lodd. Forbes, Pinetum, Woburn, 139.

This species, with the black spruce, occupies nearly all the swampy ground from Newfoundland, Labrador, and the eastern provinces to the eastern base of the Rocky Mountains in the Peace River region, and on the Athabasca; on the Rocky Mountain portage above Hudson's Hope, Peace River, Lat. 56°. (*Macoun.*) From York Factory, Hudson Bay to Point Lake, Lat. 65°, where it only attains a height of from 6 to 8 feet. (*Richardson.*)

(2095.) **L. occidentalis,** Nutt. Western Tamarack.

Pinus Larix, Douglas in Companion Bot. Mag., II., 109.
Pinus Nuttallii, Parlatore in De Candolle Prod. XVI², 412.

Abundant and large in the Kootanie-Columbia valley, and in the lower parts of smaller valleys tributary to it, ending to the north with *Pinus ponderosa* at the head of the upper Columbia Lake. Probably wanting in the Selkirk and Gold ranges, save in exceptionally low valleys. To the west of these ranges, sparingly, about Great Shuswap Lake; also, in the Coldstream valley, near the head of Okinagan Lake. The summit between Osoyoos Lake and the Kettle River was named Larch-tree Hill by the boundary commission expedition, this being the first place at which the tree was found abundantly in travel-

ling eastward. Not found on the coast. One or two very small specimens observed north of Is-cul-taesli River, tributary of the Blackwater, Long. 124°, B.C., June 4th, 1876. This is the only point at which this tree has been found west of the localities last mentioned, and its occurrence here must be regarded as quite exceptional. (*Dawson.*)

(2096.) **L. Lyallii,** Parlatore. Mountain Larch.

Pinus pendula, Hook. Fl. II., 164., in part.

North-west America, gathered in Douglas' last journey. (*Hooker.*) Forming the last belt of timber on all peaks of the Rocky Mountains above 7,000 feet, from Cascade Mountain, Bow River valley, westward on the line of the Canadian Pacific Railway, growing with *P. ablicaulis*. Not noticed in the Selkirk Mountains. (*Macoun.*) Cascade Mountains, 6,500 to 7,000 feet, forming an open belt of trees mingled with *P. albicaulis*, on the Galton Range, at 6,000 feet, and in the Rocky Mountains, at 7,000 feet, growing with *P. albicaulis*. (*Lyall.*) Probably on all mountains of sufficient height to the eastern edge of the Rocky Mountain range, as it occurs on the summit of Sheep Mountain on the east side of Waterton Lake, where specimens were collected by Mr. McConnell (1881.) Summit of the South Kootanie Pass. Not observed on the mountains in the Peace and Pine River passes. (*Dawson.*)

Additions and Corrections to Parts I-II.

PART I.

1. CLEMATIS.

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(1.) **C. verticillaris,** DC. Scattered in rocky woods at two stations near St. Stephen, N.B. (*Vroom.*) Rather abundant at the foot of a rocky cliff Nashwaaksis, near Fredericton, N.B. (*Moser.*)

Var. **Columbiana,** Gray. This is the Cypress Hills, Rocky Mountain and British Columbian form. Dr. Gray believes it to be a very good variety. It is easily distinguished by its very long and pointed sepals, and entire leaflets, also found on the Wild Horse Plains, Washington Territory, by Fletcher.

(3.) **C. ligusticifolia,** Nutt. Ross' Creek and Seven Persons' Coulée, N.W.T., 1884. (*J. M. Macoun.*) Pincher Creek, N.W.T. (*Dawson.*) Frequent in the dry country from Lytton to Kamloops, B.C. (*Fletcher.*)

Var. **brevifolia,** Nutt. Thickets near Port Moody, B.C. (*Hill.*)

2. ANEMONE.

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(6.) **A. occidentalis,** Watson. Very abundant at the upper limit of trees at Castle Mountain and mountains at Kicking Horse Lake, Rocky Mountains, also on the Selkirks at the summit of the railway pass, 1885. (*Macoun.*) Western summit of the North Kootanie Pass, 1883, Rocky Mountains. (*Dawson.*)

(7.) **A. parviflora,** Michx. Cape Chudleigh, entrance to Hudson Strait. (*R. Bell.*) Common on the high lands of Forteau, Labrador. (*W. E. Stearns.*) Crevices of rocks, Lake Mistassini, 1885. (*J. M.*

Macoun.) Very common along river banks and wet exposed places, Anticosti. Very abundant along rivers and small streams in the Rocky Mountains and far up their slopes on the 51st parallel. (*Macoun.*)

(8.) **A. Drummondii,** Watson.

A. Baldensis, Hook. Fl. I., 5. Part I., No. 8.

Slopes of the Rocky Mountains, Lat. 49°. (*Lyall.*) Abundant on the slopes of cool ravines and on the summits of the Rocky Mountains, from the Kananaskis to the summit of the Selkirks, Lat. 51°. (*Macoun.*)

(9.) **A. nemorosa,** Linn. Var. (?) The British Columbian form of this species is distinct from the eastern, having much smaller flowers uniformly three-parted leaves and being in general appearance quite dissimilar. Dean or Salmon River, B.C. (*Dawson.*) Not uncommon in woods near Victoria, Vancouver Island. (*Fletcher.*) In woods, Port Moody, B.C. (*Hill.*) This may be the *A. trifolia* of Linnæus.

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(13.) **A. Virginiana,** Linn. Woodstock, N.B. (*Vroom.*) Lower Kennebeccasis, Madawaska and St. Francis Rivers, N.B. (*Hay.*) Andover, and along the St. John, N.B. (*Wetmore.*)

(14.) **A. multifida,** DC.

A. decapetala, Linn. Hooker Arct. Pl.

Eastern British America, north of the arctic circle. (*Hook. Arct. Pl.*) On gravel along the Jupiter River, Anticosti. (*Macoun.*) Fort Churchill, at the mouth of the Churchill River, Hudson Bay. (*R. Bell.*) Near Fort Selkirk, Youcon River, Lat. 62° 45′. (*Schwatka.*)

(15.) **A. dichotoma,** Linn. In tall grass on wet places at Salt Lake and Jupiter River, Anticosti. (*Macoun.*)

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(17.) **A. Hepatica,** Linn. Leaves of this species were brought from Ashe's Inlet, Upper Savage Islands, Hudson Strait, by Dr. R. Bell, 1885.

3. THALICTRUM.

(19.) **T. anemonoides,** Michx. In shady woods, southern part of Oxford and Brant Co.'s, Ont. (*Burgess.*) Banks of the Humber, near Toronto. (*J. Ades Fowler.*)

(20.) **T. dioicum,** Linn. Common at Annapolis, Windsor and Bedford, N.S.; also on Anticosti. (*Macoun.*) Common on highlands along the margins of streams and in the interior at Forteau, Labrador. (*W. E. Stearns.*) Frequent in New Brunswick. (*Fowler's Cat.*) Very common at Lake Mistassini. (*J. M. Macoun.*)

(21.) **T. purpurascens,** Linn. Later researches show that this is not an uncommon species eastward, but has been included in *T. Cornuti.* An examination of the filaments and anthers will enable any one to decide to which species a specimen should be referred. Along Jupiter River, Anticosti, and at Bedford, N.S. (*Macoun.*) Mingan Islands. (*St. Cyr.*) Along the Ottawa below the city. (*Ami.*)

Var. **ceriferum,** Austin. In sandy woods on Dunning's Farm, near Drummondville, Niagara Falls. (*Macoun.*) In an open field about seven miles east of London, Ont. (*Burgess.*)

(2097.) **T. occidentale,** Gray. On the wooded slopes of the Rocky and Selkirk Mountains, Lat. 51°. (*Macoun.*) Eastern summit of North Kootanie Pass, Rocky Mountains. (*Dawson.*)

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(23.) **T. alpinum,** Linn. Cape Chudleigh, eastern end of Hudson Straits. (*R. Bell.*) Abundant in all the river valleys of Anticosti. (*Macoun.*)

4. MYOSURUS.

(25.) **M. minimus,** Linn. Souris Plain, south of Moose Mountain, N. W. T. (*J. M. Macoun.*) Cedar Hill, near Victoria, B. C. (*Fletcher.*) It is extremely probable that the British Columbian form is a distinct species.

(26.) **M. aristatus,** Benth. Near Short Creek, Souris River, Lat. 49°. (*Burgess.*)

5. RANUNCULUS.

(27.) **R. hederaceus,** Linn. This form should be *R. aquatilis,* var. *heterophyllus,* as the above species is excluded by Watson in Bot. California, Vol. II, 425. In pools near Victoria, B.C. (*Fletcher.*) The various forms of *R. aquatilis* require careful revision, and we await Dr. Gray's new work with great interest.

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(29.) **R. multifidus,** Pursh. Var. γ. **repens,** Watson. swampy piece of woods near Truro, N.S. (*Macoun & Burgess.*) places near St. John, N.B. (*Hay.*) In ditches near Regina, N (*Cowdry.*)

(30.) **R. allsmæfolius,** Geyer. All eastern references t species belong to the next. Collected at Victoria, 1883. (*Fle* Near Port Moody, B.C. (*Hill.*)

(2098.) **R. ambigens,** Watson. Southern part of Ontario. (*G* Vicinity of Port Colborne, Ont. (*McGill Coll. Herb.*)

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(32.) **R. Cymbalaria,** Pursh. Var. **alpinus,** Hook. N common along the margin of Salt Lake, Anticosti, 1883. (*Maco*

Page 18.

(34.) **R. affinis,** R. Br. Var. **lelocarpus,** Traut. Cape leigh, entrance to Hudson Strait; also on Digges Island, H Strait, 1884. (*R. Bell.*)

(37.) **R. abortivus,** Linn. Var. **micranthus,** Gray. there is no mistake in Dr. Gray's description of this species, a specimens collected in Nova Scotia, Quebec, and the eastern p Ontario, belong here We hope Dr. Gray will look into this s in his forthcoming work. Dr. Burgess reports all the speci collected at London as this form.

Page 19.

(39.) **R. recurvatus,** Poir. Ice gorge, North Mountain, Annapolis, N.S. (*Macoun.*) Kennebeccasis and St. John Rivers, (*Hay.*) Clifton and Andover, N.B. (*Wetmore.*) Island of Orlea (*St. Cyr.*) In woods at Lake Mistassini. (*J. M. Macoun.*)

(40.) **R. pygmæus,** Wahl. Cape Chudleigh, entrance to Hu Strait. (*R. Bell.*)

(41.) **R. Lapponicus,** Linn. In a swamp at the head of Ellen, Nipigon River; also on Peninsula Point, north end of Nipigon, 1884. (*Macoun.*)

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(42.) **R. hyperboreus,** Rottb. Cape Chudleigh, entrance to H son Strait. (*R. Bell.*)

(44.) **R. nivalis,** Linn. Port Burwell, Cape Chudleigh; Digges and Mansfield Islands in Hudson Strait, 1884. Specimens fine in both fruit and flower. (*R. Bell.*)

Var. **Eschscholtzii,** Watson. Abundant on the upper sl of all the Rocky Mountains by little brooks running from mel

snow, and in the same situations in the Selkirk Mountains, 1885. Dr. Gray thinks this may be a new species.

Page 21.

(46.) **R.** BULBOSUS, Linn. Very abundant in a meadow at Shelburne, N.S. (*Rev. J. Rosborough.*)

(48.) **R. repens,** Linn. Since Part I. was written, we have found by actual examination, that this species, both in its introduced and native forms, is abundant in Nova Scotia, New Brunswick and Quebec. In no case has the introduced plant been detected in Ontario. Introduced at Victoria, B.C. (*Fletcher.*)

Page 22.

Var. **nitidus,** Chapman. The London specimens referred to this variety are only a smooth form of the species growing in shade.

(49.) **R. Nelsoni,** Gray. Frequent in woods, Vancouver Island. (*Fletcher.*) Fort Wrangel, Alaska. (*Meehan.*)

Var. **tenellus,** Gray. Valley of Flathead River, Rocky Mountains. (*Dawson.*) Common in woods at Victoria, B.C. (*Fletcher.*)

(50.) **R. Californicus,** Benth. The specimens referred to this species were in flower and hence immature. In 1885, Mr. James Fletcher obtained numerous specimens in fine fruit, which show that the forms referred here belonged to the next two species.

(51.) **R. occidentalis,** Nutt. Abundant around Victoria, B.C. (*Fletcher.*)

(52.) **R. orthorhynchus,** Hook. Abundant in damp and grassy fields, Victoria, B.C. (*Fletcher.*) Fort Wrangel, Alaska. (*Meehan.*)

(2099.) R. MURICATUS, L. On ballast heaps at St. John, N.B. (*Hay.*)

6. CALTHA.

Page 23.

(55.) **C. leptosepala,** DC. Abundant along a brook beside a snow-field, north of the railway, at the summit of the Selkirk Mountains, B.C., 1885. (*Macoun.*)

7. AQUILEGIA.

Page 24.

(60.) **A. formosa,** Fisch. Quite common in woods around Donald, Columbia valley, Lat. 51°, 1885. (*Macoun.*) Lake Lindeman, source of Youcon River. (*Schwatka.*)

(61.) **A. brevistyla,** Hook. Along the Saskatchewan between the "Forks" and Fort à la Corne. (*Otto Klotz.*) Very common along Bow River at Morley and westward to Kananaskis station, where it is plentiful, 1885. (*Macoun.*)

(62.) **A.** VULGARIS, Linn. Completely naturalized along the railway at Bedford, and by roadsides at Windsor and Annapolis, N.S. (*Macoun & Burgess.*) Milkish, and Aroostook Falls, N.B. (*Hay.*)

Page 25.

(63.) **A. flavescens,** Watson. Abundant on the lower slopes of the Rocky Mountains, from the Kananaskis westward to the summit of the Selkirks in British Columbia, Lat. 51°. (*Macoun.*) The remark that this species might be *A. cærulea* should apply to *A. chrysantha,* to which it has a close affinity.

9. TROLLIUS.

(64.) **T. laxus,** Salisb. Abundant on the higher summits of the Rocky Mountains, but descending to 5000 feet at Kicking Horse Lake. It ranges from Castle Mountain westward to the Selkirk summit along rivulets and in boggy ravines. (*Macoun.*)

10. DELPHINIUM.

(65.) **D.** CONSOLIDA, Linn. Fields about Toronto. (*J. Ades Fowler.*)

(67.) **D. Menziesii,** DC. A form collected on the Cypress Hills and Wood Mountain, and referred to *D. azureum,* belongs here. The same form is abundant in meadows at Morley station, and a more glabrous one which may be a distinct species on Castle Mountain, and on the bed of a snow-slide at a small lake in the Rocky Mountains, near Hector, and on the summit of the Selkirks. The specimens collected at the three last mentioned places are rather pale flowered and nearly smooth and have been doubtfully referred to *D. variegatum.* The latter form is quite alpine in its habit. (*Macoun.*)

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(68.) **D. variegatum,** Torr. & Gray. In the mountains near Spence's Bridge, B.C. (*Fletcher.*)

12. TRAUTVETTERIA.

(72.) **T. palmata,** Fisch. & Mey. Var. **occidentalis,** Gray. Damp woods, base of Mount Finlayson, near Victoria, B.C. (*Fletcher.*)

14. CIMICIFUGA.

Page 27.

(75.) **C. racemosa,** Nutt. Vicinity of Galt, Ont. (*George Prescott.*) On Squaw Island, Niagara River. (*David F. Day.*)

15. HYDRASTIS.

(76.) **H. Canadensis,** Linn. Cayuga Island, Niagara River. (*David F. Day.*)

21. BERBERIS.

Page 29.

(82.) **B.** VULGARIS, Linn. Abundant on Clarke's and other islands in the Niagara River. (*Burgess.*) Cooksville, Ont. (*J. Ades Fowler.*)

(83.) **B. repens,** Lindl. Rather common on dry slopes at Donald, Columbia valley, Lat. 51°. (*Macoun.*) Vancouver Island. (*Fletcher.*)

(84.) **B. Aquifolium,** Pursh. In woods along Shuswap Lake, B.C. (*Ogilvie.*)

22. CAULOPHYLLUM.

Page 30.

(86.) **C. thalictroides,** Michx. Rich intervales of Upper St. Francis, and Eel rivers; also, Andover, N.B. (*Hay.*) Aroostook Junction on rich flats, N.B. (*Wetmore.*) In a butternut grove near Woodstock, N.B. (*Vroom.*)

23. JEFFERSONIA.

(87.) **J. diphylla,** Persoon. Reported as collected near Niagara Falls. (*David F. Day.*) Vicinity of Galt, Ont., rare. Quite common at Wingham, in Huron Co., Ont. (*George Prescott.*)

27. BRASENIA.

Page 31.

(91.) **B. peltata,** Pursh. Big Liscomb Lake, Guysboro' Co., N.S. (*E. R. Faribault.*)

28. NELUMBIUM.

(92.) **N. luteum,** Willd. Near Burnham's Island, in Grand River, a few miles from Dunnville, Ont. (*J. F. Cowell.*) Mr. Day, of Buffalo, believes that this is authentic and I agree with him as my own information points to the same conclusion.

29. NYMPHÆA.

Page 32.

(94.) **N. odorata,** Ait. var. **minor,** Sims. In profusion in small lakelets, both east and west of Sudbury Junction, northern Ontario. (*Mrs. Girdwood.*) Near Port Cockburn, Lake Joseph, Muskoka, Ont. (*Burgess.*) Moon River at the outlet of Lake Muskoka, near Pat. Carling's. (*David F. Day.*) All our *Nymphæas* and *Nuphars* need careful examination as there are numerous intermediate forms that require revision.

30. NUPHAR.

(95.) **N. advena,** Ait. In ponds at Salt Lake, Anticosti, 1883. Common in marshes at the mouth of Beaver Creek, Columbia Valley, Lat. 51°. (*Macoun.*)

(96.) **N. polysepalum,** Engelm. In ponds, Vancouver Island, near Victoria, B.C. (*Fletcher.*)

(97.) **N. luteum,** Smith. Specimens referred to this species were gathered in Black Brook, near Albert Bridge, between South Sydney and Louisburg, Cape Breton. (*Macoun & Burgess.*) In profusion in a small lakelet on Punk Island, Lake Winnipeg. (*J. M. Macoun.*)

32. PAPAVER.

Page 33.

(100.) **P.** SOMNIFERUM, Linn. Common, West Toronto. (*J. Ades Fowler.*)

Page 34.

(101.) **P.** RHÆAS, Linn. On waste heaps, North Sydney, Cape Breton. Also along the Canadian Pacific Railway at Silver City in the Rocky Mountains. (*Macoun.*)

(102.) **P. nudicaule,** Linn. Cape Chudleigh, Cape Prince of Wales, Ashe's Inlet, Upper Savage Islands, Nothingham, Digges and Mansfield Islands, Hudson Strait. Apparently abundant. (*R. Bell.*)

36. ADLUMIA.

Page 35.

(106.) **A. cirrhosa,** Raf. Thin woods near Port Colborne, Ont., 1882. (*David F. Day.*)

37. DICENTRA.

Page 36.

(109.) **D. formosa,** DC. Common in shady woods, Vancouver Island. (*Fletcher.*) In woods near Port Moody, B.C. (*Hill.*)

38. CORYDALIS.

Page 37.

(112.) **C. flavula,** DC. Point Abino, Lake Erie, 1882. (*David F. Day.*)

39. FUMARIA.

(2100.) **F.** PARVIFLORA, Linn. On waste heaps at Bedford, and Pictou, N.S., and North Sydney, Cape Breton. (*Macoun.*)

40. NASTURTIUM.

(115.) **N. palustre,** DC. On ballast heaps at Pictou, N.S., and at North Sydney, Cape Breton. Apparently introduced. (*Macoun.*)

Var. **hispidum,** Fisch. & Meyer. In mud along Moose Mountain Creek, N.W.T. (*J. M. Macoun.*)

Page 38.

(117.) **N. trachycarpum,** Gray. Flathead River, Rocky Mountains, B.C. (*Dawson.*)

(118.) **N. curvisiliqua,** Nutt. Common in low ground, Victoria, Vancouver Island. (*Fletcher.*)

Page 39.

(119.) **N. lacustre,** Gray. In the Niagara River. (*David F. Day.*)

(120.) **N.** ARMORACIA, Fries. Many waste places about Toronto. (*J. Ades Fowler.*)

42. CARDAMINE.

Page 40.

(125.) **C. rotundifolia,** Michx. The specimens referred to this species should be included in *C. rhomboidea* and var. *purpurea* placed under it as a variety of that species. The mistake was made by misunderstanding Torrey & Gray, when describing these forms. In the above we follow Gray's Manual, but we believe our var. *purpurea* will yet constitute a good species.

Page 41.

(129.) **C. pratensis,** Linn. Along Becscie River, Anticosti. (*Macoun.*) Cape Chudleigh, Ashe's Bay, Upper Savage Islands and Digge's Island, Hudson Strait. (*R. Bell.*) In bogs, Lake Mistassini. (*J. M. Macoun.*) All the arctic specimens have purple flowers.

(130.) **C. hirsuta,** Linn. var. **sylvatica,** Gray. On the slopes of Cathedral Mountain at Hector, Rocky Mountains, and at the Selkirk summit, Lat. 51°. (*Macoun.*) Flathead River, B.C. (*Dawson.*) This form approaches very closely to *C. oligosperma,* in the shape of its leaves.

43. ARABIS.

Page 42.

(133.) **A. petræa,** Lam. On cliffs of Minister's Face, N. B. (*Wetmore.*) Abundant on gravel bars at the mouth of Jupiter River, Anticosti, 1883. On sand at the mouth of the Kananaskis, also abundant and very fine at Kananaskis station in the Bow River valley, Rocky Mountains, 1885. (*Macoun.*)

Var. **ambigua,** Regel. On sand along Six Mile Creek, and on Bear Creek, within the Selkirk Mountains, B. C., 1885. (*Macoun.*) Iltasyouco River, B. C. (*Dawson.*) Lake Lindeman, source of the Youcon River. (*Schwatka.*) Keneshow Island and Chilcat Harbor, Alaska. (*Meehan.*)

(136.) **A. Holbœllii,** Hornem. Trap rock at the mouth of the Blackwater River, Lake Nipigon, 1884. (*Macoun.*)

Page 43.

(138.) **A. Drummondii,** Gray. Steep bank, head of Ellis Bay, Anticosti, 1883. (*Macoun.*) Sand dunes at Point Abino, Lake Erie. (*David F. Day.*)

(139.) **A. Lyallii,** Watson. At the head of Maple Creek in the Cypress Hills, N.W.T. (*J. M. Macoun.*) Abundant above the limit of trees from Silver City, westward in the Rocky Mountains to the summit of the Selkirks. B.C., 1885. (*Macoun.*)

(2101.) **A. canescens,** Nutt. Var. **latifolia,** Watson. On the summit of Canmore Mountain, Rocky Mountains, 1885. (*Macoun.*)

(140.) **A. perfoliata,** Lam. In grassy places at Kananaskis station, Rocky Mountains. (*Macoun.*) In open grassy places at Victoria, B.C. (*Fletcher.*) Drew's Harbor, B.C. (*Dawson.*)

Page 44.

(143.) **A. alpina,** Linn. Cape Chudleigh, entrance to Hudson Strait. (*R. Bell.*) Keneshow Island, Alaska. (*Meehan*)

45. ERYSIMUM.

Page 45.

(146.) **E. cheiranthoides,** Linn. Campbellton, N. B. (*Chalmers.*) Beauport, near Quebec. (*St. Cyr.*) Keneshow Island, Alaska. (*Meehan.*)

(148.) **E. parviflorum,** Nutt. Gravelly soil, near Emerson, Man. (*Burgess.*) Common on dry gravelly places, from Morley westward up the Bow River valley to Silver City, Rocky Mountains. (*Macoun.*) Near Fort Selkirk on the Youcon River, Lat. 62° 45'. (*Schwatka.*) Spence's Bridge and Kamloops, B.C. (*Fletcher.*)

46. SISYMBRIUM.

Page 46.

(151.) **S. linifolium,** Nutt. Dry slopes, Kamloops, B.C. (*Fletcher.*)

Page 47.

(157.) **S humile,** C. A. Meyer. Very common on sand at the mouth of the Kicking Horse River, between the railway and the river at Golden City, Columbia valley. (*Macoun.*)

(2102.) **S. Thaliana,** Gand. Point Abino, Lake Erie, Ont. Abundant and, I think, indigenous. (*David F. Day.*)

571. DIPLOTAXIS, DC.

(2103.) **D.** MURALIS, DC. On ballast heaps at Pictou, N.S., and on ballast at North Sydney, Cape Breton, 1883. (*Macoun.*) On ballast at Richibucto and St. John, N.B. (*Fowler & Hay.*)

(2104.) **D.** TENUIFOLIA, DC. On ballast heaps and along wharfs at Pictou, N.S., and on ballast at North Sydney, Cape Breton, 1883. (*Macoun.*) On ballast at Richibucto and St. John, N.B. (*Fowler & Hay.*)

47. BRASSICA.

Page 48.

(161.) **B.** NIGRA, Koch. Very abundant along Lake Erie at Port Stanley, Ont. (*Burgess.*)

51. DRABA.

Page 49.

(169.) **D. alpina,** Linn. In fine fruit and flower from Cape Chudleigh, Upper Savage Islands, Digges, Nottingham and Mansfield Islands, Hudson Strait, 1884. (*R. Bell.*) On the summits of the higher Rocky Mountains from Canmore to Hector, Lat. 51°, 1885. (*Macoun.*)

Var. **glacialis,** Dickie. Digge's and Mansfield Islands, Hudson Strait. (*R. Bell.*) Abundant on the lower slopes of the mountains at Kananaskis, and westward to Mount Stephen, Lat. 51°. (*Macoun.*)

Page 50.

(170.) **D. stellata,** Jacq. var. **nivalis,** Regel. Cape Chudleigh, and Cape Prince of Wales; Upper Savage Islands and Nottingham Island, Hudson Strait. (*R. Bell.*) Not rare on the summits of the Rocky Mountains from Canmore to Hector. (*Macoun.*)

Var. **Johannis,** Regel. Abundant on mountain summits from Kananaskis westward in the Rocky Mountains to the Columbia. (*Macoun.*) Eastern summit of North Kootanie Pass and Crow Nest Pass, Rocky Mountains. (*Dawson.*)

Page 51.

(172.) **D rupestris,** R. Br. Cape Chudleigh, and Digges Island, Hudson Strait. (*R. Bell.*)

(173.) **D. androsacea,** Wahl. Cape Chudleigh, Upper Savage Islands, Nottingham and Mansfield Islands, and the Eskimo village of Hyla, Hudson Strait. (*R. Bell.*)

(174.) **D. crassifolia,** Graham. Abundant on the sides of ravines, and grassy slopes above the limit of trees on Cathedral, Castle and other mountains in the Rocky Mountains, Lat. 51°. (*Macoun.*)

(2105.) **D. stenoloba,** Ledeb.

D. nemorosa, var. *lutea*, Watson, King's Rep. V., 22.

In crevices of rocks on the higher slopes of the mountain, south of Hector, Rocky Mountains, 1885. (*Macoun.*) Flathead River, B. C., 1883. (*Dawson.*)

(175. **D. incana,** Linn. Abundant along the coast of Anticosti. (*Macoun.*) Near Bathurst, N. B. (*Fowler's Cat.*) Red Rock, Lake Superior. Rather common in damp ravines in both the Rocky and Selkirk Mountains, Lat. 51°. (*Macoun.*)

Var. **confusa,** Poir. Digge's Island, Hudson Strait, and at Nachvak, coast of Labrador. (*R. Bell.*) On South-west Point, Anticosti. (*Macoun.*) Watcheeshoo, below Mingan Islands, St. Lawrence River. (*St. Cyr.*) Abundant on gravel at Morley, and common westward to the summit of the Selkirks, B.C. (*Macoun.*)

Page 52.

(176.) **D. arabisans,** Michx. In profusion at the west end of Anticosti. East coast of Lake Nipigon. (*Macoun.*)

(177.) **D. aurea,** Vahl. Very abundant in the foot-hills of the Rocky Mountains, at Morley and westward to Hector up the Bow River valley, Lat. 51°. (*Macoun.*) On the gravelly slopes of the foothills, Kananaskis River. (*Dawson.*)

(178.) **D. nemorosa,** Linn. Var. *β.* **hebecarpa,** Lindl. Cypress Hills, at the head waters of the White Mud River, 1884. (*J. M. Macoun.*) Rather common in rich soil at Morley, Bow River. (*Macoun.*)

52. COCHLEARIA.

Page 53.

(182.) **C. officinalis,** Linn. Cape Chudleigh, Cape Prince of Wales, Digges and Mansfield Islands, Hudson Straits. (*R. Bell.*) Idaho Inlet in Cross Sound, Alaska. (*Meehan.*)

(183.) **C. angiica,** Linn. Harrisburg, Alaska. (*Meehan.*)

(185.) **C. tridactylites,** Banks. Abundant on small rocky islands east of Becscie River, Anticosti. (*Macoun.*) Seashore, Caribou, Labrador. (*Butler.*)

54. VESICARIA.

Page 54.

(187.) **V. Ludoviciana,** DC. Abundant around Old Wives' Lakes and in Cypress Hills, N.W.T., 1884. (*J. M. Macoun.*)

(188.) **V. arctica,** Richards. Very common in the valley of Jupiter River, near the sea, Anticosti. (*Macoun.*)

55. PHYSARIA.

(190.) **P. didymocarpa,** Gray. Very fine on the gravelly banks of the Bow River at Morley mission; also on gravel slopes of the Rocky Mountains at Kananaskis station. (*Macoun.*)

57. BRAYA.

(192.) **B. alpina,** Sternb. & Hoppe. Var. **glabella,** Watson's Index. Nottingham Island, western end of Hudson Strait. (*R. Bell.*)

58. EUTREMA.

Page 55.

(195.) **E. Edwardsii,** R. Br. Cape Prince of Wales, Upper Savage Islands, Digges and Nottingham Islands and Eskimo village, of Hyla, Hudson Strait. (*R. Bell.*)

62. SMELOWSKIA.

Page 56.

(201.) **S. calycina,** C. A. Meyer. In profusion, on the summit of the mountain north of Canmore station, Rocky Mountains, 1885. (*Macoun.*) Eastern summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*)

63. LEPIDIUM.

Page 57.

(203.) **L.** RUDERALE, Linn. Abundant on ballast heaps at Pictou, N.S., 1883. (*Macoun.*)

(204.) **L.** CAMPESTRE, Linn. On the wharf at Sydney, Cape Breton, 1883. (*Macoun.*)

(205.) **L. Menziesii,** DC. Better specimens of this form collected by Mr. Fletcher show that it is not *Menziesii.* Sereno Watson names it *L. Virginicum.*

(206.) **L. intermedium,** Gray. Common along roadsides and railway tracks, London, Ont. The reference to *L. Virginicum,* No. 207, belongs here. (*Burgess.*)

64. SENEBIERA.

(209.) **S.** CORONOPUS, Poir. A few specimens on ballast at Pictou, N.S., 1883. (*Macoun.*)

Page 58.

(210.) **S.** DIDYMA, Pers. On ballast at Pictou, and in the streets of Halifax, N.S.; also on ballast at North Sydney, Cape Breton. (*Macoun.*) In the streets of Nanaimo, B.C. (*Fletcher.*)

68. THYSANOCARPUS.

Page 59.

(2106.) **T. pusillus,** Hook.

T. oblongifolius, Nutt. Torr. & Gray, Fl. I., 118.

On exposed open places at Victoria, Vancouver Island, 1876. (*Dawson.*) Mount Finlayson, near Victoria. (*Fletcher.*)

572. NESLIA, Linn.

(2107.) **N.** PANICULATA, Linn. Vicinity of Winnipeg, Man. (*Bourgeau.*) On the railway embankments and cuttings from Silver City, in the Rocky Mountains, to Golden City, in the Columbia valley. (*Macoun.*) Ottawa, rare. (*Fletcher.*)

70. POLANSIA.

(218.) **P. graveolens,** Raf. At and above Fort Erie on the lake shore, Ont. (*David F. Day.*) Abundant in sand at Port Colborne, Ont. (*Macoun.*) At Pelee Point, Lake Erie, and Point Edward, Lake Huron; also at Medicine Hat, N.W. T. (*J. M. Macoun.*)

71. HELIANTHEMUM.

Page 60.

(219.) **H. Canadense,** Michx. In open sandy woods at Kingston, N.S., 1883. (*Macoun.*)

72. HUDSONIA.

(221.) **H. ericoides,** Linn. Abundant on rather dry rocks beyond the North-west Arm, Halifax, and very abundant in sand around Kingston, on the Annapolis railway, N.S. (*Macoun & Burgess.*)

73. LECHEA

(222.) **L. major,** Michx. Sandy soil at Windsor, Ont. (*J. M. Macoun.*)

74. IONIDIUM.

Page 61.

(225.) **I. concolor,** Benth. & Hook. Foster's Flats below the Whirpool, Niagara River, Ont., also on Goat Island above the falls. (*David F. Day.*)

75. VIOLA.

(227.) **V. lanceolata,** Linn. In boggy spots, Point Pleasant, and at the head of the North-west Arm, Halifax, N. S. (*Macoun & Burgess.*) Gondola Point and Grand Lake, Milkish, and Lake Utopia, N.B. (*Hay, Jack & Wetmore.*)

Page 62.

(230.) **V. renifolia,** Gray. This species is common on Anticosti, also in Nova Scotia and New Brunswick, and extends through Quebec and Ontario.

(234.) **V. Selkirkii,** Pursh. Eel River, Woodstock and Fredericton, N.B. (*W. T. L. Reed.*) Ste. Anne des Monts River, Gaspé. (*Porter.*) Vicinity of Quebec. (*St. Cyr.*) Near Chelsea, Ottawa Co. Q. (*J. M. Macoun.*) Near King's Mountain, and in McKay's woods, Ottawa. (*Fletcher.*) In the valley of Beaver Creek, at Six Mile Creek, Selkirk Mountains, B.C., 1885. (*Macoun.*)

Page 63.

(236.) **V. sagittata,** Ait. Abundant in damp woods, Point Pleasant, near Halifax, N.S. (*Macoun & Burgess.*) Specimens, which may be a form of this species, have been collected at St. Stephen, N.B., by Mr. Vroom.

(237.) **V. pedata,** Linn. The localities mentioned under this species, before the names of Macoun and Dawson, refer to *V. delphinifolia.* Norfolk Co., Lake Erie, Ont. (*Burgess.*)

(2108). **V. delphinifolia,** Nutt. All Manitoba specimens we have seen are of this species and doubtless those of Sir John Richardson are the same. In which case this may be considered the western species and *V. pedata* the eastern form.

Page 64.

(240). **V. canina,** L. Var. **rupestris,** Regel. Under this name we place the hairy form found growing on sand or amongst dry rocks. Abundant at Chalk River on the Ottawa and at North Bay, Lake Nipissing; also in sandy woods, Hudson Bay House, Red Rock, Lake Superior. (*Macoun.*)

Var. **longipes,** Nutt. This form was placed with Var. *adunca* but recent examination shows them to be quite distinct. While this form is found almost exclusively east of the Rocky Mountains, the other is confined to the west of them. Moose Mountain and the whole Souris plain, also at Moose Jaw and westward. (*J. M. Macoun.*) South of Battleford and westward by the Bow River Pass through the Rocky Mountains to Donald in the Columbia valley, Lat. 51°. (*Macoun.*) Cedar Hill and other localities, near Victoria, B. C. (*Fletcher*).

(244.) **V. glabella,** Nutt. Near a snow-field, on the summit of the mountain on the north side of the railway at the summit of the Selkirks, Lat. 51°. Many plants were in flower and others only in bud, August 20th, 1885. (*Macoun.*) Mount Finlayson, near Victoria, B.C. April 27, 1885. (*Fletcher.*)

Page 65.

(245.) **V. sarmentosa,** Dougl. Western summit of North Kootanie Pass, Rocky Mountains. (*Dawson.*) On beds of snow-slides, Kicking Horse Lake, and on the Selkirk Mountains at the summit, B. C., Lat. 51°. (*Macoun.*) Harrisburg, Alaska. (*Meehan.*) Very abundant along the Goldstream at the base of Mount Finlayson, near Victoria, B.C. (*Fletcher.*)

(246.) **V. Nuttallii,** Pursh. This form is frequent in Manitoba and westward. Common at Brandon. (*Macoun.*) Moose Mountain and westward to the Cypress Hills, N.W.T. (*J. M. Macoun.*) Summit of plateau north of Milk River, N.W.T. (*Dawson.*)

Var. **linguæfolia,** Nutt. We placed this as a synonym under var. *præmorsa*, but are now satisfied that it is distinct and is the Rocky Mountain form of the species. Rocky and partly shaded hillsides, western summit of North Kootanie Pass, Rocky Mountains, 1883. (*Dawson.*)

We are still in doubt about the violet referred to in the note (Part I.), but it is in all probability a form of *V. glabella.*

(247.) **V.** TRICOLOR, Linn. var. ARVENSIS, Ging. On waste lots, Cooksville, Ont. (*J. Ades Fowler.*)

76. POLYGALA.

Page 66.

(249.) **P. sanguinea,** Linn. Sandy soil, near Windsor, Ont., 1884. (*J. M. Macoun.*)

(250.) **P. verticillata,** Linn. Roadsides near Drummondville and abundant at Port Colborne, Lake Erie, 1885. (*Macoun.*)

(251.) **P. Senega,** Linn. In low meadows, from Morley westward in the Bow River valley to Canmore, Rocky Mountains, 1885. (*Macoun.*)

(253.) **P. paucifiora,** Willd. Several stations in Charlotte County, N. B. (*Vroom.*) In woods at Jupiter River, Anticosti. (*Macoun & St. Cyr.*) Abundant at Chalk River, Ottawa valley, and on sandy slopes near Chelsea, Q. (*Macoun & Fletcher.*)

77. SILENE.

Page 67.

(255.) **S.** INFLATA, Smith, Queen's Park, Toronto, Ont. (*J. Ades Fowler.*)

(257.) **S. Scouleri,** Hook. Collected in southern British Columbia, prior to 1872. (*Cowley.*)

Page 68.

(262.) **S. Menziesii,** Hook. Crow Nest Lake, Rocky Mountains. (*Dawson.*)

(263.) **S. acaulis,** Linn. Cape Chudleigh, Cape Prince of Wales, Upper Savage Islands, Digges, Nottingham, and Mansfield Islands, also at the Eskimo village of Hyla, Hudson Strait. (*R. Bell.*) Mingan, Q. (*St. Cyr.*) Abundant on summits from Castle Mountain westward through the Rocky Mountains, and on the Selkirk summit in profusion. (*Macoun.*) Western summit of North Kootanie Pass, Rocky Mountains (*Dawson.*)

(2109.) **S. multicaule,** Nutt. Dr. G. M. Dawson's specimens collected in 1881, and referred by me to *L. elata*, No. 265, belong here. Numerous specimens gathered on many of the higher summits of the Rocky Mountains, along the Bow River valley, Lat. 51°, 1885, are

referred to this species by Mr. Watson, but I cannot think they are identical as our specimens do not agree with Nuttall's description, as given on page 192. (*Torr. & Gray.*) At page 675, these authors refer *S. multicaule* to *S. Drummondii*, "as a less pubescent and glandular variety." *Silene Drummondii* is now *Lychnis Drummondii*, and I confess my examinations place our form with the latter genus. (*Macoun.*)

(2110.) **S.** NOCTURNA, Linn. Observed growing at Fort Erie, Ont., in 1881. Not since detected. (*David F. Day.*)

(2111.) **S.** GALLICA, Linn. Abundant at Cedar Hill, near Victoria, B.C. (*Fletcher.*)

78. LYCHNIS.

(264). **L. apetala,** Linn. Common on the islands and shores of Hudson Strait from Cape Chudleigh to Digge's Island. (*R. Bell.*) On the higher summits of the Rocky and Selkirk Mountains, Lat. 51°, altitude 8000 feet. (*Macoun.*)

(2112). **L. montana,** Watson. (?).

L. apetala, Watson, King's Rep. V. 26.

This species is doubtful. The specimens collected had erect flowers and slightly exserted petals. Better specimens are needed. Gathered on the summit of Canmore Mountain, June 29th, 1885. Lat. 51°. (*Macoun*).

Page 69.

(266). **L. alpina,** Linn. Nachvak coast of Labrador, 1884. (*R. Bell.*) Little Whale River, Hudson Bay. (*G. Barnston.*)

Page 70.

(272). **L. affinis,** Vahl. Fine specimens procured at Fort Churchill, Hudson Bay 1884. (*R. Bell.*)

80. SAPONARIA.

(276). **S.** VACCARIA, Linn. Introduced already along the whole line of the Canadian Pacific Railway from Winnipeg to the Columbia, bia, 1885. (*Macoun.*) Also along the railway in British Columbia. (*Fletcher.*)

81. ARENARIA.

(277). **A. capillaris,** Poir. Var. **nardifolia,** Regel. Western summit of North Kootanie Pass, Rocky Mountains. (*Dawson*) On the summits of all mountains above 7,000 feet in Rocky and Selkirk Mountains. Lat. 51°. (*Macoun.*)

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(280). **A. biflora,** Wahl. Var. **obtusa,** Watson. On the summits of all the Rocky Mountains over 7,500 feet in height from Canmore westward. Lat. 51°. (*Macoun.*) Eastern summit of North Kootanie Pass, Rocky Mountains. (*Dawson.*)

(281). **A. verna,** Linn. Cape Chudleigh, entrance to Hudson Strait. (*R. Bell.*) On the slopes of the Crow Nest Pass, Rocky Mountains. (*Dawson.*) Abundant on the summits and higher wooded slopes of all the Rocky and Selkirk Mountains along the Canadian Pacific Railway. (*Macoun.*)

Var. **hirta,** Watson. This variety grows at a much lower altitude than the type and is very abundant along the Canadian Pacific railway from Calgary westward through the Bow River valley. (*Macoun.*) Western summit of North Kootanie Pass, Rocky Mountains. (*Dawson.*) On dry rocks near Victoria, B.C. (*Fletcher.*)

Page 72.

Var. **rubella,** Hook. In sand along the shore of Nottingham Island, Hudson Strait. (*R. Bell.*)

(283.) **A. pungens,** Nutt. Eastern summit of North Kootanie Pass, Rocky Mountains. (*Dawson.*)

(284.) **A. Michauxii,** Hook. Mingan Islands, Gulf of St. Lawrence. (*St. Cyr.*) Between Lakes St. Clair and Huron. (*Douglas.*) The *A. juniperina* of Torr. & Gray grows in abundance on the sands of Pelee Point, Lake Erie, and is undoubtedly a form of this species. In profusion on Poplar Point, Lake Nipigon, Ont. Abundant on rocks at Kananaskis station, and at Canmore and Castle Mountains, Bow River valley, Rocky Mountains. (*Macoun.*)

Page 73.

(287.) **A. Grœnlandica,** Spreng. Nain, and Ford's Harbor, coast of Labrador. (*R. Bell.*) On rocks, North-west Arm, Halifax, N.S. (*Macoun & Burgess.*) Collected on the summits of many low hills at Baie des Roches, Labrador. (*W. E. Stearns.*)

(288.) **A.** SERPYLLIFOLIA, Linn. Esquimalt, near Victoria, B. C. (*Fletcher.*)

(289). **A. lateriflora,** Linn. Fort Selkirk, Youcon River, Lat. 62° 45′. (*Schwatka.*) Pyramid Harbor, Alaska. (*Meehan.*)

(291). **A. peploides,** L. Var. **oblongifolia,** Watson. Between Cape Lazo and Shelter Point, Vancouver Island, B. C. (*Dawson.*) Kenashow Islands, Alaska. (*Meehan.*)

(292). **A. physodes,** DC. Fort Selkirk, Youcon River, Lat. 62° 45′. (*Schwatka.*)

82. STELLARIA.

Page 74.

(2113.) **S. graminea,** L. Abundant at Truro, Halifax, Windsor and Annapolis, N. S, 1883. (*Macoun & Burgess.*) Island of Orleans, near Quebec. (*St. Cyr.*) Vicinity of Ottawa, Ont. (*Miss I. L. Grant.*) There is no doubt but that much of the *S. longifolia* of Nova Scotia, New Brunswick and Quebec is this species and collectors should try to separate them. The present species is a larger and coarser plant than *S. longifolia*, has rough seeds and ciliate scales. It is certainly a native.

(296). **S. calycantha,** Bongard. On the higher slopes of the Rocky Mountains at Kicking Horse Lake. (*Macoun.*)

Page 75.

(297.) **S. uliginosa,** Murr. Common in small rills, Point Pleasant Halifax, N.S. (*Macoun & Burgess.*) Blenkinsop Bay, B.C. (*Dawson.*)

(298.) **S. crassifolia,** Ehrh. Rather common in damp localities along the Labrador coast. (*W. E. Stearns.*) Watcheeshoo River, Labrador coast. (*St. Cyr.*) Abundant at South-west Point and Jupiter River, Anticosti. (*Macoun.*) River St. Lawrence at Cacouna. (*Burgess.*) Shediac, N.B. (*Brittain.*) Charlo, N.B. (*Fletcher.*)

(300.) **S. longipes,** Goldie. Var. **minor,** Hook. Nain, coast of Labrador; Cape Chudleigh, and Cape Prince of Wales, Hudson Strait. (*R. Bell.*) Very common on the prairie and in the foot-hills and extending up the Bow River valley to Laggan in the Rocky Mountains. (*Macoun.*)

Page 76.

Var. (**læta,**) Torr. & Gray. Digges and Nottingham Islands, also the Eskimo Village of Hyla, Hudson Strait. (*R. Bell.*) On the sum-

mits of the higher mountains, both in the Rocky and Selkirk Mountains, Lat. 51°. (*Macoun.*)

Var. **Edwardsii,** Torr. & Gray. Digges, Nottingham and Mansfield Islands, Hudson Strait. (*R. Bell.*) Coast of Labrador. (*Miss Macfarline.*)

(303.) **S. crispa,** Cham. & Schlecht. Western summit of the South Kootanie Pass, Rocky Mountains. (*Dawson.*) On gravel and amongst grass in ravines from Castle Mountain westward to the Selkirk summit, Lat. 51° (*Macoun.*) Pyramid Harbor, Alaska. (*Meehan.*)

(305.) **S. humifusa,** Rottb Nain, on the Labrador coast; also Digges Island and at the Eskimo Village of Hyla, Hudson Strait. (*R. Bell.*) Common along the coast, mouth of Becscie River, Anticosti. (*Macoun.*) Wet boggy places, shore of Lake Mistassini. (*J. M. Macoun.*) Shediac, N. B. (*Brittain.*)

83. CERASTIUM.

Page 77.

(307.) **C.** VULGATUM, Linn. Vicinity of Victoria, B. C. (*Fletcher.*)

Page 78.

(311.) **C. alpinum,** Linn. Ford's Harbor near Nain, coast of Labrador, Upper Savage Islands, Cape Chudleigh, Digges and Nottingham Islands, Hudson Strait. (*R. Bell.*) Bartlett Bay, Alaska. (*Meehan.*)

Var. **Behringianum,** Regel. On the summits of all the Rocky Mountains westward from the Kananaskis to the Columbia, also on the mountains at the Selkirk summit, Lat. 51°. (*Macoun.*) Eastern summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*)

Var. **Fischerianum,** Torr. & Gray. Ashe's Bay, Upper Savage Islands, Cape Prince of Wales and Digges, Nottingham and the Sleeper Islands, Hudson Strait; also at Nachvak, coast of Labrador. (*R. Bell.*)

Var. **glabratum,** Hook. A few specimens from the Upper Savage Islands, north of Hudson Strait. (*R. Bell.*)

(313.) **C. trigynum,** Vill. Cape Chudleigh, Hudson Strait. (*R. Bell.*) On Mount Albert and Table Top Mountain, Gaspé. (*Porter.*)

84. SAGINA.

Page 79.

(314.) **S. procumbens,** Linn. Wet grassy places North-west Arm, Halifax, N.S. (*Macoun & Burgess.*) Carleton, N. B. (*Hay.*) Welsh Pool, Campobello, N.B. (*Vroom.*) Campbellton, N.B. (*Chalmers.*)

(315.) **S. occidentalis,** Watson. Malaspina Inlet, B.C. (*Dawson.*) In wet places near Esquimalt, Vancouver Island. (*Fletcher.*) Sitka. (*Meehan.*)

(316.) **S. Linnæi,** Presl. Summit of the South Kootanie Pass, Rocky Mountains, Lat. 49°. (*Dawson.*) On the summits of all the higher mountains in the Rocky and Selkirk Ranges, Lat. 51°. (*Macoun.*)

(318.) **S. nodosa,** Meyer. Eel River, Restigouche Co., N. B. (*Chalmers.*) South-west Point, Jupiter River and West Point, Anticosti. (*Macoun.*) Mingan Islands and Labrador coast. (*St. Cyr.*) East shore of Hudson Bay. (*R. Bell.*) Muskeg Island, Lake Winnipeg. (*J. M. Macoun.*)

86. SPERGULA.

Page 80.

(322.) **S.** ARVENSIS, Linn. On railway embankments at Silver City, Rocky Mountains. (*Macoun.*) Waste places around Victoria, B.C. (*Fletcher.*) Harrisburg, Alaska. (*Meehan.*)

87. PARONYCHIA.

Page 81.

This and the three following genera are now included in the order *Illecebraceæ*, and placed as the first order of the *Apetalæ*, by Benthem and Hooker, in the Genera Plantarum, published in 1880.

89. SCLERANTHUS.

(325.) **S. annuus,** Linn. Port Credit, Lake Ontario. (*J. Ades Fowler.*)

92. CLAYTONIA.

Page 82.

(329.) **C. parviflora,** Moquin. On gravel in brooks along Beaver and Bear creeks, Selkirk Mountains, B. C. (*Macoun.*)

(331.) **C. Caroliniana,** Michx. Abundant in the western counties of New Brunswick. (*Vroom.*) Sheldon's Point, St. John, N. B. (*Chalmers.*)

Var. **sessilifolia,** Torr. Eastern summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*) On the summits of the higher Rocky Mountains at Kicking Horse Lake and on the summits of the Selkirk Range, B.C. (*Macoun.*)

(2114.) **C. megarrhiza,** Parry.

S. arctica. var. (?) *megarrhiza,* Watson. King's Rep. V., 43.

On the summits of Canmore and Castle Mountains, Bow River valley, Rocky Mountains. (*Macoun.*)

Page 83.

(337.) **C. sarmentosa,** Meyer. Fort Wrangel, Sitka. (*Meehan.*)

93. CALANDRINA.

(338.) **C. Menziesii,** Hook. Cedar Hill and Esquimalt, Vancouver Island. (*Fletcher.*)

94. MONTIA.

Page 84.

(340.) **M. fontana,** Linn. In a meadow a little above the first fishing stage after crossing the North-west Arm, Halifax, N.S. (*Macoun & Burgess.*) Shediac, N.B. (*Brittain.*) Near Fort Selkirk, Youcon River, Lat. 62° 45'. (*Schwatka.*) Muddy places near Victoria Vancouver Island. (*Fletcher.*)

97. HYPERICUM

(343.) **H. pyramidatum,** Ait. Along the Nation River at Casselman, 30 miles from Ottawa. (*Fletcher.*)

Page 85.

(349.) **H. Canadense,** Linn. var. **major,** Gray. Rare at Bass River, N.B. (*Fowler's Cat.*) Toronto Island, Lake Ontario. (*Macoun.*) Bank of stream, Parry Sound, Muskoka, Ont. (*Burgess.*) Black River, Lake Winnipeg. (*J. M. Macoun.*)

(350.) **H. Scouleri,** Hook. On the upper slopes of Mount Dawson and Glacier Mountain, at the Selkirk summit, Lat. 51°, B. C.

(*Macoun.*) Nimkish or Karmutsen Lake, Vancouver Island. (*Dawson.*) Departure Bay, Vancouver Island. (*Meehan.*) Abundant around Victoria and up the Fraser valley, B.C. (*Fletcher.*)

99. MALVA.

Page 86.

(356.) **M.** CRISPA, Linn. Toronto. (*J. Ades Fowler.*)

(357.) **M.** MOSCHATA, Linn. Old pastures, Toronto. (*J. Ades Fowler.*)

101. SIDALCEA.

Page 87.

(361.) **S. malvæflora,** Gray, var. **Oregana,** Watson.

S. Oregana, Nutt. Torr. & Gray, Fl. I., 234.

Besides the type or round leaved form, Mr. Fletcher collected fine specimens of this variety near Victoria, Vancouver Island, 1885.

102. ABUTILON.

(362.) **A.** AVICENNÆ, Gærtn. Weston, Ont. (*J. Ades Fowler.*)

103. HIBISCUS.

(363.) **H. moscheutos,** Linn. On an island in Niagara River, near Buffalo. (*David F. Day.*)

(364.) **H.** TRIONUM, Linn. A rare garden weed, Kingston, Kent Co., N.B. (*Fowler's Cat.*)

104. SPHÆRALCEA.

Page 88.

(365.) **S. rivularis,** Torr. On the banks of Elk River, Rocky Mountains, 1883. (*Dawson.*) Near Shuswap Lake, B.C. (*Hill.*)

106. LINUM.

Page 89.

(2115.) **L.** CATHARTICUM, Linn. On waste ground along the sea shore at Pictou, N.S (*Macoun & Burgess.*)

(369.) **L. striatum,** Walter. Point Abino, Lake Erie, Ont. (*David F. Day.*)

107. GERANIUM.

Page 90.

(375.) **G. Richardsoni,** Fisch. & Mey. Abundant at Morley and westward in the Bow River valley to "The Gap" in the Rocky Mountains. (*Macoun.*) Summit of South Kootanie Pass, Rocky Mountains. (*Dawson.*)

(377.) **G. incisum,** Nutt.

G. Fremontii, Torrey. Macoun's Cat., No. 325.
G. Hookerianum, Walp. Macoun's Cat., No. 326.

All references under *G. Fremontii,* in Part I, belong here. Flathead River, Rocky Mountains, B. C. (*Dawson.*) Wood Mountain, N.W.T., Lat. 49°. (*Burgess.*)

Page 91.

(382.) G. PUSILLUM, Linn. Parkdale, Ont. (*J. Ades Fowler.*) Drew's Harbor, B.C. (*Dawson.*)

(383.) **G.** MOLLE, Linn. In a field at Parkdale, Ont. (*J. Ades Fowler.*)

108. ERODIUM.

(384.) **E. cicutarium,** L'Her. On ballast heaps, Carleton, N.B. (*Hay.*)

109. FLŒRKIA.

(386.) **F. proserpinacoides,** Willd. Low grounds, in woods, Ontario, opposite Buffalo. (*David F. Day.*)

573. LIMNANTHES.

(2116.) **L. Douglasii,** R. Br. On the margins of pools in the vicinity of Victoria, Vancouver Island, 1875. (*Macoun.*) In Part I., this is referred to No. 386.

110. IMPATIENS.

Page 92.

(387.) **I. fulva,** Nutt. Harisburg, Alaska. (*Meehan.*)

111. OXALIS.

(391.) **O. corniculata,** Linn. A careful examination of our eastern forms shows that they are all referrable to var. *stricta*, although some are quite smooth and others more or less hairy. We were therefore mistaken in placing the specimens from Nova Scotia under the type.

113. PTELEA.

Page 93.

(393.) **P. trifoliata,** Linn. A few specimens on the Lake Shore above Fort Erie, Ont. (*David F. Day.*)

115. ILEX.

Page 94.

Ilex opaca and *I. glabra* were both omitted in Part I., because believed of doubtful occurrence; the latter is now placed in the catalogue on the evidence given below.

(2117.) **I. glabra,** Gray.

Prinos glabra, Linn. Hook. Fl. I, 121.

Halifax, N.S. (*Sommers.*) In a swamp near an old mill-pond beyond the head of the North-west Arm, Halifax, N.S. (*Macoun & Burgess.*) At Shelburne, N.S. (*Rev. J. Rosborourgh.*)

117. CELASTRUS.

(397.) **C. scandens,** Linn. Near the Lake of the Woods. (*R. Bell.*) Stone Fort, Red River, Man. (*J. M. Macoun.*)

119. PACHYSTIMA.

Page 95.

(400.) **P. myrsinites,** Raf. Flathead River, Rocky Mountains, B.C. (*Dawson.*) On slopes of the hills at Donald in the Columbia valley, and westward in the Selkirks, B.C., Lat. 51°. (*Macoun.*)

120. CEANOTHUS.

Page 96.

(403.) **C. velutinus,** Dougl. On dry slopes of the hills, bordering the Wait-a-bit at Donald, Columbia valley, B.C., Lat. 51°. (*Macoun.*)

Var. **lævigatus,** Torr. & Gray. On slopes along the Flathead River, Rocky Mountains, B.C. (*Dawson.*)

121. RHAMNUS.

(405.) **R. alnifolia,** L'Her. Flathead River, Rocky Mountains, B.C. (*Dawson.*)

(406.) **R. Purshiana,** Gray's Landing, near the mouth of the Fraser, B.C., 1883. Cadboro' Bay and Saanich, B.C., 1885. (*Fletcher.*)

122. VITIS.

Page 97.

(408.) **V. Labrusca,** Linn. For this substitute *V. æstivalis,* as all the specimens from Point Pelee are of this species. Climbing high over trees at Foster's Flats below the Whirlpool, Niagara River, also in thickets around Queenston Heights. (*Macoun.*)

(410.) **V. riparia,** Michx. All references in Part I, under No. 409, belong here. Up to the present we have no authentic record of the occurrence of typical *V. cordifolia* in any part of Canada. The *Vitis* found on the Island of Orleans is this species, and Dr. Burgess writes that the vine found at Emerson, Man., is the same. The one seen by myself from the deck of a steamboat along the Assiniboine must be it likewise. I allow *V. cordifolia* to stand as it is barely possible it may yet be found along Lake Erie. *V. Labrusca* must be excluded. (*Macoun.*)

125. ACER.

Page 99.

(418.) **A. glabrum,** Torrey. On mountain slopes from Kananaskis through the Rocky and Selkirk Mountains, Lat. 51°. It seldom attains an elevation of 6,000 feet, and is always a mere shrub in damp ravines.

126. NEGUNDO.

Page 100.

(422.) **N. aceroides,** Moench. Within the last ten years this tree has been extensively planted in Ontario and grows with great rapidity, but is not very ornamental. There are a number of fine trees up the valley of the Don at Toronto. (*Burgess.*) Three trees in a clump, between Cooksville and Port Credit, Ont. (*J. Ades Fowler.*)

127. RHUS.

(424.) **R. glabra,** Linn. Not uncommon on rocks at Rat Portage, Lake of the Woods. (*Macoun.*)

Var. **occidentalis,** Torrey. On dry slopes between Lytton and Spence's Bridge, along the Thompson River, B. C. (*Fletcher.*)

(426.) **R. venenata,** DC. Swamps near Hatchey, Ont. (*Burgess.*) In a sphagnous swamp near Port Colborne, Ont. (*David F. Day.*)

129. LUPINUS.

Page 102.
(433.) **L. perennis,** Linn. Near Queenston, Ont. (*David F. Day.*)

(434.) **L. arcticus,** Watson. Lake Lindeman, source of the Youcon River. (*Schwatka.*)

Page 103.
(439.) **L. argenteus,** var. **argophyllus,** Watson. Foot-hills west and south of Calgary, N. W. T. (*J. M. Macoun.*)

(444.) **L. Nootkatensis,** Donn. Michel Creek, Rocky Mountains, B. C., Lat. 50°. (*Dawson.*) Mount Finlayson near Victoria, B.C. (*Fletcher.*) At Sumass Lake, Fraser River valley. (*Bowman.*) Barlett Bay, Alaska. (*Meehan.*)

(445.) **L. polyphyllus,** Lindl. Abundant around Victoria, Vancouver Island. (*Fletcher.*)

(2118.) **L. lepidus,** Dougl. On Goldstream Road, Vancouver Island. (*Fletcher.*)

132. TRIFOLIUM.

Page 105.
(2119.) **T.** MEDIUM, Linn. Roadside near the sea, Point Pleasant, Halifax, N.S. (*Macoun & Burgess.*) Beauport near Quebec. (*St. Cyr.*)

(454.) **T. involucratum,** Willd. Drew's Harbor, B.C. (*Dawson.*)

(455.) **T. tridentatum,** Lindl. Drew's Harbor, B.C. (*Dawson.*) Cedar Hill and Esquimalt, near Victoria, B.C. (*Fletcher.*)

(2120.) **T. furcatum,** Lindl. Cedar Hill, near Victoria, Vancouver Island, 1885. (*Fletcher.*)

(2121.) **T. gracilentum,** Torr. & Gray. Cedar Hill, near Victoria, Vancouver Island, 1885. (*Fletcher.*)

Page 106.

(457.) **T. microcephalum,** Pursh. Drew's Harbor, B. C. (*Dawson.*) Cedar Hill and Esquimalt, Vancouver Island. (*Fletcher.*)

(458.) **T. microdon,** Hook. & Arn. Vicinity of Victoria, Vancouver Island. 1875. (*Macoun & Meehan.*)

(460.) **T.** AGRARIUM, Linn. Sandy soil, High Park, Toronto, Ont. (*J. Ades Fowler.*) Ottawa. (*Fletcher.*)

134. MEDICAGO.

Page 107.

(469.) **M.** SATIVA, Linn. Waste places at Quebec. (*St. Cyr.*)

136 HOSACKIA.

(473.) **H. decumbens,** Gray. On dry soil at Spence's Bridge on the Thompson River, B. C. (*Fletcher.*)

137 PSORALEA.

Page 108.

(479.) **P. physodes,** Dougl. Saanich Road and Quamichan, Vancouver Island. (*Fletcher.*)

574. TRIGONELLA, Linn.

(2122.) **T.** CORNICULATA, Linn. Ballast Heaps, Pictou, N. S. (*Macoun & Burgess.*)

138. AMORPHA.

(480.) **A. canescens,** Nutt. Abundant in thickets amongst the sand hills west of Pine Creek, Man., 1884. (*Macoun.*)

Page 109.

(482.) **A. microphylla,** Pursh. Rocky places, Dawson Road, Man. (*Burgess.*) Oak Point, Man., 1872. (*Macoun.*) Stony Mountain, Man. (*J. M. Macoun.*)

139. PETALOSTEMON.

(484.) **P. violaceus,** Michx. Var. **pubescens,** Gray. Quite common on gravelly slopes of couleés in the drier parts of the prairie region. On gravel, west of Moose Mountain Creek, and at the Red Deer Lakes and Hand Hills, N.W.T. (*Macoun.*)

575. TEPHROSIA, Pers. (HOARY PEA.)

(2123). **T. Virginiana,** Pers. Goat's Rue.

Galega Virginiana, Linn. Michx. Fl. II., 67.

Abundant in sand along the Lake Erie shore, in the 1st and 2nd concessions of Charlotteville. (*Burgess.*)

576. ORNITHOPUS, Linn.

(2124.) **O.** SCORPOIDES, DC. On ballast heaps, Pictou, N.S., 1883. (*Macoun.*) St. Stephen, N.B. (*Vroom.*)

For *Glycyrhiza* read *Glycyrrhiza.*

142. ASTRAGALUS.

Page 110.

(488.) **A. lentiginosus,** Dougl. Neighborhood of Kamloops, B.C. (*Fletcher.*)

(491.) **A. Canadensis,** Linn. Common on the islands in Niagara River. (*David F. Day.*)

(492.) **A. adsurgens,** Pall. Common on gravel slopes at Morley and up the Bow River valley to Canmore, Lat. 51°. (*Macoun.*)

Page 111.

(493.) **A. hypoglottis,** Linn. In wet meadows at Morley and westward in the Bow River valley to Canmore; not alpine. (*Macoun.*) On the mountains at Spence's Bridge, B.C. (*Fletcher.*) Bartlett Bay, Alaska. (*Meehan.*)

(494.) **A. Drummondii,** Dougl. Fossil Coulée, Milk River Ridge, N.W.T., 1883. (*Dawson.*)

(496.) **A. aboriginum,** Richards. Common on gravel ridges from Morley westward in the Bow River valley to Silver City. (*Macoun.*)

(498.) **A. oroboides,** Hornem. Var. **Americanus,** Gray. Abundant atMorley in the Bow River valley. (*Macoun.*)

Page 112.
(499.) **A. alpinus,** Linn. Nain and Nachvak, coast of Labrador; Cape Chudleigh and Cape Prince of Wales, Hudson Strait. (*R. Bell.*) Petitcodiac, N. B. (*Brittain.*) Tobique Village, N. B. (*Dr. Bailey.*) Mouth of the Aroostook, N. B. (*Vroom.*) Island of Orleans, near Quebec. (*St. Cyr.*) Near Campbellton, N. B., 1876. (*Chalmers.*) Summits of the North and South Kootanie passes, Rocky Mountains. (*Dawson.*) On all the higher mountains and far down in the valleys of the Rockies on both sides of Bow River valley, Lat. 51°. (*Macoun.*) Pyramid Harbor, Alaska. (*Meehan.*)

(500.) **A. lotiflorus,** Hook. Quite common on the prairie at Medicine Hat and at numerous points on the clay soil along the Canadian Pacific east to Swift Current. (*Macoun.*)

(504.) **A. Cooperi,** Gray. Islands in Niagara River and at Niagara Falls. (*David F. Day.*)

Page 113.
(507.) **A. frigidus,** Gray. Var. **Americanus,** Watson. Rocky thickets along Gaspé Basin, Q. Abundant in wet thickets from Morley westward through the Rocky Mountains to the Columbia valley at Donald, Lat. 51°. (*Macoun.*) Fossil Coulée, Milk River Ridge, N.W.T. (*Dawson.*)

Var. **littoralis,** Watson. Whipsaw Creek, B.C. (*Dawson.*) This is No. 524, Part I.

Page 114.
(513.) **A. multiflorus,** Gray. Belly River and foot-hills of Rocky Mountains. (*Dawson.*) On sandy knolls in the Bow River valley at the mouth of the Kananaskis and westward for a few miles up the valley. (*Macoun.*)

(514.) **A. Bourgovii,** Gray. On the summit of a mountain at Kicking Horse Lake, Rocky Mountains. (*Macoun.*)

(515.) **A. Pallisері,** Gray. On dry gravelly slopes at Canmore and Silver City in the Rocky Mountains, also very abundant at Donald, in the Columbia Valley. (*Macoun.*) Crow Nest Pass, Rocky Mountains. (*Dawson.*)

(2125.) **A. campestris,** Gray. On gravelly shores along Bow River at Morley, and westward up the valley to Canmore, within the Rocky Mountains, 1885. (*Macoun.*)

143. OXYTROPIS.

Page 115.

(525.) **O. podocarpa,** Gray. On the eastern summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*) Abundant on the Rocky Mountains above 7,000 feet, from Silver City to Kicking Horse Lake. (*Macoun.*)

(526.) **O. arctica,** R. Br.

O. Uralensis, var. *pumila,* Ledeb. Part I., 115.

See Dr. Gray's Revision of the Genus *Oxytropis,* Proced. Am. Acad. A. & S., Vol. XX., page 4. Place the Nova Scotia reference to *O. campestris* here. The Rocky Mountain one goes under *O. monticola.* Digges Island, Hudson Strait. (*R. Bell.*) West of Cape Bathurst, Arctic Coast. (*Capt. Pullen.*)

Page 116.

(527.) **O. campestris,** L. Var. **cærulea,** Koch.

O. campestris, DC. Part I., page 116.

All western notices must be struck out and divided between *O. Lamberti* and *O. monticola.* The northern ones are likely the same, including *O. leucantha,* for the arctic coast specimens. Dr. Gray says this species is only found in northern Maine, Quebec and Labrador. Ford's Harbor and Nachvak, coast of Labrador; also at Cape Chudleigh, and Cape Prince of Wales, Hudson Strait. (*R. Bell.*) Hillsides near Forteau lighthouse, Labrador. (*Butler.*) Mouth of the Tobique River, and Aroostook Falls, N.B. (*Hay.*)

(528.) **O. Lamberti,** Pursh. All references to this species in Part I. must be considered mixed with O. *monticola.* Common on the Cypress Hills, N.W.T. (*J. M. Maçoun.*) Western summit of North Kootanie Pass, Rocky Mountains. (*Dawson.*) At Long Lake northwest of Qu'Appelle, and abundant at Morley and westward up the Bow River valley to Canmore and on the mountain tops to Kicking Horse Lake. Common at Spence's Bridge and along the Fraser, B.C. (*Macoun.*) Pyramid Lake, Alaska. (*Meehan.*)

(530.) **O. nigrescens,** Fisch. Cape Thompson on the American side of Behrings Straits. (*J. Muir,* vide *Gray.*)

Var. **arctobia,** Gray.

O. *arctica* var. *minor,* Hook. Fl. I. 146.

Arctic sea-coast, collected by Capt. Parry and most later explorers. (*Gray.*)

(531.) **O. splendens,** Dougl. From Morley to Canmore, in the Bow River valley. Lat. 51°. (*Macoun.*)

Page 117.

(532.) **O. deflexa,** DC. Both at low and high altitudes from Morley to Canmore, Bow River valley. Lat. 51°. (*Macoun.*)

(2126.) **O. viscida,** Nutt.

O. campestris, var. *viscida,* Watson, Part I., 116.

Very fine and abundant along the Bow River from the Blackfoot Crossing, westward up the valley and through the Rocky Mountains to Donald in the Columbia valley, Lat. 51°. (*Macoun.*)

(2127.) **O. leucantha,** Pers.

O. borealis, DC., Hook. Fl. I., 145, belongs here rather than to *O. campestris,* as in Part I., 116.

Cape Thompson, arctic sea-coast. (*J. Muir.*) Port Burwell, Cape Chudleigh; also, Cape Prince of Wales and the Eskimo village of Hyla, Hudson Strait. (*R. Bell.*) Specimens very distinct; stipules chestnut colored and conspicuous.

(2128.) **O. monticola,** Gray.

O. Lamberti, Pursh, Part I., 116, in part.

O. campestris, DC., Part I., 116, in part.

Souris Plain, around Moose Mountain, N.W.T. (*J. M. Macoun.*) Rat Creek, Manitoba, and westward across the prairie; much more common than *O. Lamberti,* and distinguished from it by its lax flowered spikes, less downy leaves and darker haired calyx. It extends from Morley to the "Gap," in the Bow River valley. It is the true prairie form. (*Macoun.*)

(2129.) **O. Mertensiana,** Turcz. Cape Lisburne, arctic coast of Alaska. (*Gray.*)

144. HEDYSARUM.

Page 117.

(533.) **H. boreale,** Nutt. Abundant on the upper St. John, rarer on the Tobique, Eel and other tributaries, Edmundston, N.B. (*Hay.*) Island of Anticosti. (*St. Cyr.*) Rather common at Morley and westward to Canmore in the Bow River valley, Lat. 51°. (*Macoun.*)

Var. **albiflorum,** Macoun. This fine plant is closely related to *H. boreale,* but is certainly distinct. All three forms grow together in the Bow River valley, but the habit of each is quite distinct from the other. This form is peculiar to the foot-hills and drier mountain

slopes, and is abundant from the Kananaskis through the Rocky Mountains to the Columbia valley at Donald, Lat. 51°. (*Macoun.*) Eastern summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*)

(534.) **H. Mackenzii,** Richards. The *H. canescens*, Nutt., seems to be a form which may be fairly separated from the species on account of its habit and general appearance. Rather common on dry gravelly ridges from Moose Mountain to Old Wives Lakes, and northwestward to the Red Deer Lakes, and very likely common on gravel throughout the driest part of the prairie region. (*Macoun.*) North Branch of North Fork of Old Man River, Rocky Mountains. (*Dawson.*)

577. ONOBRYCHIS, Cærtn.

(2130.) **O.** SATIVA, Lam. Introduced at Point Abino, near Fort Erie, Ont. (*David F. Day.*)

146. LESPEDEZA.

Page 119.

(546.) **L. reticulata,** Pers. Cooksville, Ont. (*J. Ades Fowler.*)

Page 120.

(548.) **L. capitata,** Michx. Dry field borders, Windsor, Ont. (*J. M. Macoun.*)

147. VICIA.

(549.) **V.** SATIVA, L. var. ANGUSTIFOLIA, Seringe. Occasionally found in fields or on roadsides, Richibucto, N.B. (*Fowler's Cat.*) New Mills, and Tobique, N. B. (*Hay.*) Quebec, near tke skating rink. (*St. Cyr.*) Along the Intercolonial railway at Pictou, N.S., and on waste heaps at Ottawa, Ont. (*Macoun.*)

(550.) **V.** TETRASPERMA, Loisel. Petitcodiac and Moncton, N. B. (*Brittain.*) Waste or open places around Pictou, N.S. (*McKay.*) In the vicinity of Quebec. (*St. Cyr.*)

(551.) **V.** HIRSUTA, Koch. Grand Island, Mingan, River St. Lawrence. (*St. Cyr.*) Rather rare at Cadboro' Bay, Vancouver Island. (*Fletcher.*)

(553.) **V. Caroliniana,** Walter. A more than usually pubescent form, growing in dry sandy woodlands, near Mount Pleasant, Brant Co. Ont. (*Burgess.*)

Page 121.

(554.) **V. Americana,** Muhl. Common on the Nipigon River, north of Lake Superior. (*Macoun.*) Rupert House, James Bay. (*J. M. Macoun.*)

Var. **linearis,** Watson. Very common along the Canadian Pacific railway at Morley and westward up the Bow River valley, on gravel, to Silver City, Lat. 51°. (*Macoun.*)

(555.) **V. gigantea,** Hook. At Sooke and Cadboro' Bay, Vancouver Island. (*Fletcher.*)

(2131.) **V.** ——— ? Apparently an introduction at Chinaman's Ranche, near Cache Creek, B.C. (*Fletcher.*)

148. LATHYRUS.

(2132.) **L.** APHACA, Linn. On ballast heaps at Pictou, N.S. (*Macoun.*)

150. PHASEOLUS.

Page 122.

(562.) **P. diversifolius,** Pers. Found at Fort Erie, Ont., Sept. 1883, but rare. (*David F. Day.*) Rather common on the sand beach at Rondeau, Lake Erie. (*Macoun.*)

152. BAPTISIA.

Page 123.

(564.) **B. tinctoria,** R. Br. Rather rare in sandy thickets at Windsor, Ont. (*J. M. Macoun.*)

153. GYMNOCLADUS.

(566.) **G. Canadensis,** Lam. Reported on excellent authority as abundant at Point Penetanguishine, Ont. (*David F. Day.*)

155. PRUNUS.

Page 125.

(572.) **P. emarginata,** Walp. Var. **mollis,** Brewer. Not uncommon at Victoria, Vancouver Island, becoming a fine tree sometimes fifty feet high with a diameter of twelve inches. Tsi-tsutl Mountains, B.C. (*Dawson.*)

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(575.) **P. serotina,** Ehrh. One specimen noted on north side of the St. Lawrence at Lorette, very common on the south side. (*St. Cyr.*)

Note.

Prunus domestica, Linn. Grows well on the Island of Orleans and on the shore at Beauport. (*St. Cyr.*)

157. SPIRÆA.

(579.) **S. betulifolia,** Pall. var. **rosea,** Gray. On the slopes of Mount Dawson, summit of the Selkirks, on the Canadian Pacific rail way. (*Macoun.*)

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(580.) **S. Douglasii,** Hook. Abunndant in thickets, in the neighborhood of Victoria, Vancouver Island. (*Fletcher.*)

(582.) **S. Aruncus,** Linn. Very common in the valley of Beaver Creek and in all the stream valleys of the Selkirk Range, B. C. (*Macoun.*) On wet clay banks at Port Moody, B.C. (*Fletcher.*) Harrisburg, Alaska. (*Meehan.*)

(583.) **S. pectinata,** Torr. & Gray. Very abundant on the beds of snow-slides on all the mountains near the summit of the Selkirk Range, B.C. (*Macoun.*) York Mountain, near Sumass, in the valley of the Fraser, B.C. (*A. Bowman.*)

158. NEILLIA.

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(584.) **N. opuifolia,** Benth. & Hook. Var. **mollis,** Brew. & Watson. In the neighborhood of Victoria, Vancouver Island. (*Fletcher.*) Departure Bay, Vancouver Island. (*Meehan.*) Lake Karmutzen, Vancouver Island. (*Dawson.*)

159. CILLENIA.

Page 128.
(585.) **C. trifoliata,** Mœnch. On rather moist sandy soil at the edge of pine and chestnut woods, Brantford Township, Brant Co., Ont. (*Burgess.*)

160. RUBUS.

(588.) **R. Chamæmorus,** Linn. Ford's Harbor, coast of Labrador; Upper Savage Islands and Digges Island, Hudson Strait. (*R. Bell.*) Straits of Belle Isle and Mingan Islands, River St. Lawrence. (*St. Cyr.*) In peat bogs four miles south of Red Rock, Lake Superior. (*Macoun.*) Lake Lindeman, source of the Youcon River, Lat. 60°. (*Schwatka.*)

Page 129.
(589.) **R. arcticus,** Linn. Grand Micatina, Mingan Islands, and Anticosti, Q. (*St. Cyr.*) Peat bog four miles from Red Rock, Lake Superior, and in other bogs near Port Arthur, Lake Superior. Common in low thickets from Morley westward through the Rocky and Selkirk ranges, Lat. 51°. (*Macoun.*) Fort Selkirk, Youcon River, Lat. 62° 45'. (*Schwatka.*)

Var. **grandiflorus,** Ledeb. Nain, and Nachvak, coast of Labrador; also at Cape Prince of Wales and Upper Savage Islands, Hudson Strait. (*R. Bell.*) Abundant in peat bogs, Salt Lake, Anticosti. (*Macoun.*) Summit of Mount Albert, Shickshock Mountains. (*Porter.*) Island of Ste. Geneviève, Mingan, Q. (*St. Cyr.*) Frequent in bogs from Morley westward through the Rocky Mountains to Donald, Columbia valley, Lat. 51°. (*Macoun.*)

(590.) **R. Dalibarda,** Linn. Madawaska and Bocabec, N.B. (*Hay.*) Ile à la Chasse, Mingan, Q. (*St. Cyr.*) Dominion Springs, near Ottawa; also in damp woods at Casselman, 30 miles east of Ottawa. (*Fletcher.*)

(591.) **R. pedatus,** Smith. Very abundant in mountain woods from Laggan westward in the Rocky Mountains. (*Macoun.*) Western summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*)

Page 130.
(593.) **R. stellatus,** Smith. Sitka, Alaska. (*Meehan.*)

(594.) **R. strigosus,** Michx. Petty Harbor and Brigus, eastern part of Newfoundland. (*R. Bell.*)

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(600.) **R. villosus,** Ait. Brigus and Topsail, eastern part of Newfoundland. (*R. Bell.*)

161. PURSHIA.

Page 132.

(604.) **P. tridentata,** DC. Sand Creek, Kootanie valley, B. C. (*Dawson.*)

162. DRYAS.

(605.) **D. octopetala,** Linn. Summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*) Very common above 5,000 feet, from the Kananaskis through the Rocky Mountains, Lat. 51°. (*Macoun.*) Klootch-oot-a Lake, B.C. (*Dawson.*) Bartlett Bay, Alaska. (*Meehan.*)

Var. **integrifolia,** Cham. & Schlecht. Nachvak, coast of Labrador; Cape Chudleigh, Cape Prince of Wales, Upper Savage Islands, Digges and Nottingham Islands, and at the Eskimo village of Hyla, Hudson Strait. (*R. Bell.*) Hill tops, Armour, Labrador. (*Butler.*) On an exposed point of rocks, South-west Point, Anticosti. (*Macoun.*) Mingan Islands and at Ile du Grand Micatina. (*St. Cyr.*)

(606.) **D. Drummondii,** Hook. On gravel at the mouth of Jupiter River, Anticosti. Abundant in the gravel at the mouths of mountain streams from Morley through the Rocky Mountains to Donald in the Columbia valley. Never on the mountain slopes. (*Macoun.*)

163. GEUM.

Page 133.

(608.) **G. Virginianum,** Linn. Borders of fields, near Windsor, N.S. (*Macoun.*) Salmon River and Norton, N.B. (*Wetmore & Hay.*)

(609.) **G. macrophyllum,** Willd. Common in meadows and on prairies from Morley westward through the Rocky and Selkirk Ranges, Lat. 51°. (*Macoun.*) Crow Nest Pass, Rocky Moantains. (*Dawson.*) Cypress Hills, N.W.T. (*J. M. Macoun.*) Pyramid Harbor, Alaska. (*Meehan.*) Along the water at La Canardière, near Quebec. (*St. Cyr.*)

(612.) **G. rivale,** Linn. In springy places all along the coast of Labrador. (*W. E. Stearns.*) Isle St. Charles, Mingan, Q. (*St. Cyr.*) Buckingham, P.Q., and Dow's Swamp, Ottawa. (*Fletcher.*)

164. WALDSTEINIA.

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(617.) **W. fragarioides,** Tratt. Eel River, Carleton Co., N.B. (*Hay.*)

165. SIBBALDIA.

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(618.) **S. procumbens,** Linn. Cape Chudleigh, entrance to Hudson Strait. (*R. Bell.*) Table Top Mountain, Gaspé. (*Porter.*) On elevations over 5,000 feet, through the Rocky Mountains, Lat. 51°. (*Macoun.*) Western summit of North Kootanie Pass, Rocky Mountains, Tsi-tsutl Mountains, B.C. (*Dawson.*)

166. CHAMÆRHODOS.

(619.) **C. erecta,** Bunge. On dry gravelly slopes at Morley, and westward in the Bow River valley to Kananaskis station in the Rocky Mountains. (*Macoun.*)

167. FRAGARIA.

(622.) **F. Chilensis,** Duchesne. Open woods near Victoria, Vancouver Island. (*Fletcher.*) Bartlett Bay, Alaska. (*Meehan.*)

168. POTENTILLA.

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(623.) **P. arguta,** Pursh. Watsheeshoo Bay, River St. Lawrence. (*St. Cyr.*)

(624.) **P. glandulosa,** Lindl. Thickets at Spence's Bridge, B.C. (*Fletcher.*)

(625.) **P. Norvegica,** Linn. Nain, coast of Labrador. (*R. Bell.*) Quite smooth and distinct from the ordinary form. Very likely the *P. Labradorica* of Lehmann.

Var. **hirsuta,** Torr. & Gray. At Tadoussac, Q. (*Sir Wm. Meddlycott*, fide *St. Cyr.*)

(626.) **P. rivalis,** Nutt. Var. **millegrana,** Watson. Dry beds of spring torrents from Morley westward in the Bow River valley to Silver City in the Rocky Mountains. (*Macoun.*)

(627.) **P. supina,** Linn. Shore of Lake Ontario at Four Mile Creek, near the mouth of the Niagara River. (*David F. Day.*) Muskeg Island, Lake Winnipeg. (*J. M. Macoun.*)

(628.) **P. Pennsylvanica,** Linn. Mingan Harbor, River St. Lawrence. (*St. Cyr.*) Not uncommon around the South-west Point

lighthouse, Anticosti. Mungo Park's Point and Livingstone's Point, Lake Nipigon, Ont. Common at Morley and westward in the Bow River valley to Canmore in the Rocky Mountains. (*Macoun.*)

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Var. **strigosa,** Pursh. Very common on dry slopes from Morley westward up the Bow River valley to Silver City, Rocky Mountains. (*Macoun.*) Spence's Bridge, Thompson River, B.C. (*Fletcher.*)

Var. **glabrata,** Watson. On the lower grassy slopes at Kananaskis station, and in the meadows at Silver City, Rocky Mountains. (*Macoun.*)

(630.) **P. pulchella,** R. Br. Nottingham Island, Hudson Strait. (*R. Bell.*)

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(632.) **P. effusa,** Dougl. Souris Plain, near Moose Mountain Creek, N.W.T. (*J. M. Macoun.*)

(633.) **P. Plattensis,** Nutt. Moose Mountain Creek, N.W.T. (*J. M. Macoun.*)

(634.) **P. dissecta,** Pursh. Common on the higher slopes of the mountains through the Rocky and Selkirk ranges, Lat. 51°. (*Macoun.*)

Var. **glaucophylla,** Lehm. Summit of South Kootanie Pass, Rocky Mountains. (*Dawson.*) On the summits of the Rocky and Selkirk ranges from Canmore westward, Lat. 51°. (*Macoun.*) Tsi-tsutl Mountains, B.C. (*Dawson.*)

Var. **multisecta,** Watson. On the summit of Canmore Mountain, Rocky Mountains; apparently very rare. (*Macoun.*)

Var. **pinnatisecta,** Watson. On the summits of the mountains at the Kananaskis, and Silver City, Rocky Mountains. (*Macoun.*)

(635.) **P. gracilis,** Dougl. On gravelly slopes and in meadows from Morley to Silver City up the Bow River valley, Rocky Mountains. (*Macoun.*) Mountain slopes, Spence's Bridge, B.C. (*Fletcher.*) Slopes on the Chilcoten valley, B.C. (*Dawson.*) On hillsides near Victoria, Vancouver Island. (*Cowley.*)

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(636.) **P.** PILOSA, Willd. Roadsides, Woodstock, Ont. (*Millman.*) On the edge of a field at Clifton, near Niagara Falls. (*David F. Day.*) This may be the *P. erecta* of Mr. Day's catalogue of Buffalo plants.

(637.) **P. argentea,** Linn. Roadside between Kentville and Cape Blomidon, N. S. (*Macoun & Burgess.*) Point Edward and Sarnia, Ont. (*J. M. Macoun.*) Fort Erie, Ont. (*David F. Day.*)

(638.) **P. humifusa,** Nutt. Common from Moose Jaw to Medicine Hat along the Canadian Pacific Railway and on the Cypress Hills and Moose Mountain. (*J. M. Macoun.*) On dry rocky ledges and on gravel in the foot-hills at Morley and along the Bow River. (*Macoun.*)

(639.) **P. nivea,** Linn. Cape Prince of Wales and Digges Island, Hudson Strait. (*R. Bell.*)

Var. **Vahliana,** Seem. On the summits of all the mountains from Canmore to Kicking Horse Lake in the Rocky Mountains, Lat. 51°. (*Macoun.*)

Var. **dissecta,** Watson. On the summit of Castle Mountain at Silver City, Rocky Mountains. (*Macoun.*)

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(641.) **P. maculata,** Poir. Nain, and Nachvak, coast of Labrador; also at Cape Chudleigh and Cape Prince of Wales, Hudson Strait. (*R. Bell.*) On hills, Amour, Labrador. (*Butler.*)

(643.) **P. emarginata,** Pursh. Cape Chudleigh, entrance to Hudson Strait; Upper Savage Islands, Digge's and Nottingham Islands, and at the Eskimo village of Hyla, Hudson Strait. (*R. Bell.*) On the summit of the northern part of Castle Mountain, Rocky Mountains, Lat. 51°. (*Macoun.*)

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(650.) **P. Canadensis,** L. var. **simplex,** Torr. & Gray. None of our specimens are of the type and it is very doubtful if it is found in the eastern provinces. Point Pleasant, near Halifax and at Kingston, N.S.; also at Belleville, Ont. (*Macoun.*) Very common in sandy fields around London, Ont. (*Burgess.*)

169. ALCHEMILLA.

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(653.) **A. vulgaris,** Linn. Abundant on hillsides at Amour, Labrador. (*Butler.*) Found in several localities along the Labrador coast. (*W. E. Stearns.*) Abundant on grassy slopes near the sea at Yarmouth, N.S., and at North Sydney and Louisburg, Cape Breton. (*Macoun & Burgess.*) Halifax Co. N. S. (*Lawson.*)

170. AGRIMONIA.

(654.) **A. Eupatoria,** Linn. Topsail, eastern part of Newfoundland. (*R. Bell.*)

171. POTERIUM.

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(656.) **P. Canadense,** Benth. & Hook. Topsail, Newfoundland. (*R. Bell.*) Common on the dry sloping flats along the coast of Labrador. (*W. E. Stearns.*) Abundant on grassy places, Salt Lake, Anticosti. (*Macoun.*) Beauport, near Quebec. (*St. Cyr.*)

(658.) **P. Sitchense,** Watson. Lake Lindeman source of the Youcon River, Lat. 62°, 45′. (*Schwatka.*)

(2133.) **P.** SANGUISORBA, Linn. Well established at Point Abino, Lake Erie, Ont. (*David F. Day.*)

(2134.) **P. annuum,** Nutt. Hook. Fl. I., 198.

Sanguisorba annua, Torr. & Gray, Fl. I., 429.

At lake near Victoria, Vancouver Island. (*Fletcher.*)

172. ROSA.

Serano Watson, Esq., the able curator of Dr. Gray's Herbariums at Harvard, Mass., has lately published a "History and Revision of the Roses of North America," and this necessitates additional notes and corrections in our notice of this genus in Part I.

(660.) **R. Carolina,** Linn. This species and the next have frequently been confounded, but they are easily separated by their leaves, and stipules, this species having "leaflets finely many toothed," while in the next they are "coarsely toothed." None of our eastern specimens are of this species, but *all* belong to the next. We have it only from Ontario, and Mr. Watson quotes it from Nova Scotia and New Brunswick on my authority, which he clearly shows to be incorrect. Meech's Lake, near Chelsea, Q. (*Ami.*)

(661.) **R. lucida,** Ehrh. Newfoundland. (*Osborn.*) Whycocogmah, Cape Breton, and at numerous places in Nova Scotia. (*Macoun & Burgess.*) Border of Gogoggan Lake, Guysboro' Co., Nova Scotia. (*Faribault.*) Quite common at St. Stephen, N.B. (*Vroom.*) Whiskey Island, Georgian Bay. (*J. Bell.*)

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(662.) **R. blanda,** Ait. On rocks and rocky shores of rivers and lakes from Newfoundland to Hudson Bay, and west to Lake Winnipeg. (*Watson.*) Glenleg, Guysboro' Co., N.S. (*Faribault.*) Petitcodiac,

N.B. (*Brittain.*) On the Tobique River, N.B. (*Hay.*) Along the Metapedia, near the Restigouche. (*Chalmers.*) Jupiter River, Anticosti, and along the Gaspé coast, quite common. (*Macoun.*) Levis and Island of Orleans. (*St. Cyr.*) Fort Garry, Manitoba. (*Bourgeau.*)

(2135.) **R. Sayii,** Schwein.

R. blanda, var. *setigera*, Part I.

Lake Mistassini and Rupert River, the only rose. (*J. M. Macoun.*) Island of Orleans, River St. Lawrence, and Ellis Bay, Anticosti. (*St. Cyr.*) Dry fields at Belleville, Ont., and abundant, north of Lake Superior, and on the shores of Lake Nipigon and its islands. Common at Morley and westward up the Bow River valley to Canmore and Silver City, Lat. 51°. (*Macoun.*) Abundant on the slopes of the Cypress Hills and along their base. (*J. M. Macoun.*) At the base of the Rocky Mountains. (*Drummond & Bourgeau.*) From Cumberland House on the Saskatchewan to the Mackenzie River. (*Richardson.*)

(663.) **R. Arkansana,** Porter.

R. acicularis, var. *Bourgeauiana*, Part I.

At Brandon, Manitoba. (*Scott.*) Souris Plain near Moose Mountain, and at Maple Creek, N.W.T. (*J. M. Macoun.*) The most abundant prairie rose, in fact, the only species on the open prairie. Rapid City (1872), River-that-turns (1879), and extremely abundant on the Souris Plain, south-east of Regina (1880), and abundant (though a doubtful form) at Morley and Kananaskis in the Bow River valley. (*Macoun.*)

(664.) **R. Californica,** Cham. & Schlect. Along the Thompson River, B.C. (*Macoun.*) Specimens identical with mine were collected by Mr. James Fletcher in nearly the same locality and have been doubtfully referred to *R. pisocarpa* by Mr. Watson. I retain them under this species for the present. The Vancouver Island form belongs to the next species, and the one from Qualcho Lake to *R. Nutkana.*

(2136.) **R. pisocarpa,** Gray. Very abundant in thickets on Vancouver Island, also found in the Fraser valley below Yale. (*Fletcher.*) Vancouver Island, British Columbia. (*Kellogg.*)

(666.) **R. Nutkana,** Presl. In the Columbia valley at Donald, and along Beaver Creek in the Selkirk Mountains, B.C. (*Macoun.*) Near Old Man River, N.W.T., and at Columbia Lakes, Rocky Mountains. (*Dawson.*) Common around Victoria and up the Fraser and Thompson rivers, B.C. (*Fletcher.*) Observatory Inlet, B.C. (*Scouler.*) Hernando Island and Queen Charlotte Islands, B.C. (*Dawson.*)

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(667.) **R. nitida,** Willd. Topsail, Newfoundland. (*R. Bell.*) Glenleg, Guysboro' Co., N.S, (*Faribault.*) Abundant at Kingston, N.S. (*Macoun & Burgesss.*) Bass River, Kent Co., N.B.. 1868. (*Fowler.*)

(668.) **R. Fendleri,** Crepin.

R. parviflora, Part I.

Near Sand creek, Kootanie valley, B.C. (*Dawson.*)

(2137.) **R. acicularis,** Lindl. Fort Simpson on the Mackenzie River; also, at Fort Youcon, and in the Kuskokoin valley, and on the Kowak River, and on St. Michel's Island, Alaska. (*Watson.*)

(2138.) **R. Woodsii,** Lindl. On the Saskatchewan River at Carlton. (*Bourgeau.*) Great Slave Lake and other places. (*Richardson.*) Abundant at Canmore, on the upper benches, Rocky Mountains, Lat. 51°. (*Macoun.*)

(2139.) **R. humilis,** Marsh.

R. parviflora, Ehrh. Beitr. IV., 21.
R. Lyonii, Pursh, Fl. I., 345.
R. lucida, Part I., in part. Ontario localities.

Along the Detroit River, Ont. (*Gillman.*) Near Ferry Point, Prince Edward Co.; also, on Rice Lake Plains, near Castleton, Northumberland Co., and at Leamington, Essex Co., Ont. (*Macoun.*)

(2140.) **R.** PRUINOSA, Baker. Forming extensive thickets near an old mill at the head of the North-west Arm, near Halifax, N. S. (*Macoun & Burgess.*)

(670.) **R. micrantha,** Smith. Rather common at the ruins of Old Fort Erie, Ont. (*David F. Day.*) The common form along roadsides in central Ontario. (*Macoun.*) Common at Victoria, Vancouver Island. (*Fletcher.*)

173. PIRUS.

(672.) **P.** MALUS, Linn. Common in thickets on the Niagara peninsula at and near Queenston. (*Macoun.*) Spontaneous in abandoned fields near Port Colborne, Ont. (*David F. Day.*)

(673.) **P. arbutifolia,** Linn. Brigus, eastern part of Newfoundland. (*R. Bell.*)

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(674.) **P. Americana,** DC. Specimens referred by me to this species were obtained at Bedford, N.S., and others from Campbellton,

N.B., are identical with them. Mr. Watson believes the former to be *P. Arcuparia*, and hence introduced. We may have three forms instead of two in Canada, and eastern collectors would do well to procure specimens in both fruit and flower.

Var. **microcarpa,** Torr. & Gray.

Sorbus Aucuparia, var. *a.* Michx. Fl. I., 290.
S. microcarpa, Pursh, Fl. I., 341.

Not rare along the Labrador coast. (*W. E. Stearns.*) Not uncommon north of Lake Superior, also at Current River, 1884. (*Macoun*)

174. CRATÆGUS.

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(679.) **C. tomentosa,** Linn. Neighborhood of Quebec and along the road to Lorette. (*St. Cyr.*)

Var. **punctata,** Gray. Ste. Anne de la Pérade, Champlain Co., Q. (*St. Cyr.*)

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(682.) **C. Douglasii,** Lindl. Stone Fort, Red River, near Selkirk, Man. (*J. M. Macoun.*) Emerson, Red River, Man. Dr. Burgess writes that it is likely all Dr. Dawson's specimens should be placed here. Cypress Hills, N.W.T. (*J. M. Macoun.*) Tail Creek, near Buffalo Lake, Red River, N.W.T. (*David Macoun.*) Wild Horse Creek, Kootanie valley, B.C. (*Dawson.*) In thickets at Winnipeg and westward to the Rocky Mountains; also in the Columbia valley at Donald and along Beaver Creek in the Selkirk Mountains, B. C. (*Macoun.*) Apparently all the prairie *Crataegus* is this form, but whether it is identical with the Pacific form is still an open question.

(683.) **C. rivularis,** Nutt. Flathead River, B.C. (*Dawson.*) In thickets at the mouth of Harrison River, Fraser valley, B.C., 1875. (*Macoun.*) Base of York Mountain, near Sumass, Fraser valley, B.C.. (*A. Bowman.*) Common in the vicinity of Victoria, Vancouver Island. (*Fletcher.*)

175. AMELANCHIER.

(684.) **A. alnifolia,** Watson. Port Arthur, west side of Lake Superior, along the shore; also in thickets at Emerson, Man. (*Burgess.*) We now refer the whole of the prairie *Amelanchier* to this form, as well as that found in the Rocky Mountains. (*Macoun.*) Fort Selkirk, Youcon River, Lat. 62° 45'. (*Schwatka.*)

176. SAXIFRAGA.

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(687.) **S. oppositifolia,** Linn. Cape Chudleigh, Digges, Nottingham, and Mansfield Islands and at the Eskimo village of Hyla, Hudson Strait. (*R. Bell.*) On rock, at Amour, Labrador coast. (*Butler.*) On gravel at the mouths of Jupiter River and Rivière de Brig, Anticosti. On the very highest summits of Copper, Castle, and other mountains, at Kicking Horse Lake, Rocky Mountains, Lat. 51°. (*Macoun.*) Eastern summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*)

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(688.) **S. Aizoon,** Jacq. Minister's Face, River St. John, N.B. (*Wetmore.*) Island of St. Charles, Mingan, Q. (*St. Cyr.*) On rocks Peninsula Harbor, Lake Superior, and on the Outer Barn and Burnt Island, Lake Nipigon. (*Macoun.*)

(2141.) **S. Pennsylvanica,** Linn. Low places, near Fort Erie, Ont. (*David F. Day.*)

(690.) **S. cæspitosa,** Linn. Nachvak, coast of Labrador; Cape Chudleigh, Cape Prince of Wales, the Sleeper Islands, and Digges, Nottingham, and Mansfield Islands, Hudson Strait. (*R. Bell.*) Grand Island, Mingan, Q. (*St. Cyr.*) On the summits, amongst broken rocks, from Canmore through the Rocky Mountains to the Columbia, Lat. 51°. (*Macoun.*)

Var. **uniflora,** Hook. Cape Prince of Wales, Upper Savage Islands, Digges, Nottingham, and Mansfield Islands, Hudson Strait. (*R. Bell.*) Summit of South Kootanie Pass, Rocky Mountains. (*Dawson.*)

(692.) **S. adscendens,** Linn. Eastern summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*) On the slopes and summits of the Rocky and Selkirk Mountains, along brooks and ravines, from Castle Mountain to the Selkirk summit, B.C., Lat. 51°. (*Macoun.*)

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(693.) **S. rivularis,** Linn. Nachvak, coast of Labrador; Cape Chudleigh and Nottingham Island, Hudson Strait. (*R. Bell.*) In wet boggy places on the summits of the higher Rocky Mountains, from Copper and Castle Mountains westward to Kicking Horse Lake. (*Macoun.*)

(2142.) **S. debilis,** Engelm.

S. rivularis, Watson, in King's Rep. V., 93.

Summit of the South Kootanie Pass, Rocky Mountains, 1881. (*Dawson.*) On the wet slopes of Mount Carroll, near snow-drifts, Bear Creek, Selkirk summit, Lat. 51°, 1885. (*Macoun.*)

(695.) **S. cernua,** Linn. Cape Chudleigh, Cape Prince of Wales, Digges, Nottingham and Mansfield Islands, and the Eskimo village of Hyla, Hudson Strait. (*R. Bell.*) Rather rare on the summits of the higher Rocky Mountains, Lat. 51°. (*Macoun.*)

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(698.) **S. nivalis,** Linn. Nachvak, coast of Labrador; Cape Chudleigh, Upper Savage Islands, Digges and Nottingham Islands and the Eskimo village of Hyla, Hudson Strait. (*R. Bell.*) On the summits of all the higher Rocky Mountains from Canmore to Kicking Horse Lake, Lat. 51°. (*Macoun.*) Eastern summit of North Kootanie Pass, Rocky Mountains, and on Michel Creek, B.C. (*Dawson.*)

(703.) **S. leucanthemifolia,** Michx. var. **ferruginea,** T. & G. Abundant along mountain brooks around the summit of the Selkirks, B.C., Lat. 51.° (*Macoun.*) Harrisburg, Alaska. (*Meehan.*)

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(704.) **S. Lyallii,** Engler. Abundant along brooks and wet slopes from Silver City through the Rocky Mountains westward to Selkirk summit, B.C. (*Macoun.*) Crow Nest Pass, Rocky Mountains. (*Dawson.*)

(707.) **S. punctata,** Linn. Along brooks and in damp crevices of rocks on mountains around the summit of the Selkirk Range, B.C. (*Macoun.*) Eastern summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*)

(709.) **S. heterantha,** Hook. Along brooks and in crevices of damp rocks high up on the mountains at the Selkirk summit, B.C.; very rare. (*Macoun.*) Crow Nest Pass and South Kootanie Pass, Rocky Mountains. (*Dawson.*)

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(710.) **S. Hirculus,** Linn. Digges, Nottingham, and Mansfield Islands, and Eskimo village of Hyla, Hudson Strait. (*R. Bell.*)

(712.) **S. bronchialis,** Linn. Very common on the lower slopes of the Rocky Mountains, from the foot-hills to Kicking Horse Lake, Bow River valley. (*Macoun.*) Michel Creek, Rocky Mountains. (*Dawson.*) Mount Finlayson, near Victoria, Vancouver Island. (*Fletcher.*)

(713.) **S. tricuspidata,** Retz. Nachvak, coast of Labrador; Cape Prince of Wales, Upper Savage Islands, the Sleeper's Islands, Digge's, Nottingham and Mansfield Islands, Hudson Strait (*R. Bell.*) Lake Lindeman, source of the Youcon River, Lat. 60°. (*Schwatka.*) Chilcat Inlet, Alaska. (*Meehan.*)

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(714.) **S. aizoides,** Linn. Nachvak, coast of Labrador; Cape Chudleigh, and Cape Prince of Wales, Mansfield Island and Eskimo village of Hyla. (*R. Bell.*) Ile Ste. Geneviève, Mingan, Q. (*St. Cyr.*) Abundant along streams, Anticosti. Along brooks and in damp crevices of rocks in ravines, from Kananaskis through the Rocky and Selkirk Ranges, Lat. 51°. (*Macoun.*) Michel Creek, B.C. (*Dawson.*)

177. BOYKINIA.

(715.) **B. occidentalis,** Torr. & Gray. At the waterfall, Goldstream. Vancouver Island, B.C., 1885. (*Fletcher.*)

178. TOLMIEA.

(717.) **T. Menziesii,** Torr. & Gray. Near the railway station, Port Moody, B.C. (*Hill.*)

179. TELLIMA.

(718.) **T. grandiflora,** R. Br. On the upper slopes of the Rocky Mountains at Kicking Horse Lake; also abundant along mountain brooks, flowing into Beaver Creek, Selkirk Mountains, B.C. (*Macoun.*) Slopes, Spence's Bridge, B. C. (*Fletcher.*) Harrisburg, Alaska. (*Meehan.*)

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(719.) **T. parviflora,** Hook. Western summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*)

(2143.) **T. tenella,** Walp.

Lithophragma tenella and *L. glabra,* Nutt. Torr. & Gray, Fl. I., 584.

In and by rills near snow, at the source of Swift Current Creek, Cypress Hills, N.W.T. 8th June, 1884. (*J. M. Macoun.*)

180. TIARELLA.

(721.) **T. unifoliata,** Hook. In thick woods on mountain sides from Kicking Horse Lake in the Rockies to the summit of the Selkirk Range, B.C. (*Macoun.*) In woods at Michel Creek, Rocky Mountains. (*Dawson.*)

(722.) **T. trifoliata,** Linn. In woods at Comox, Vancouver Island. (*Dawson.*)

181. MITELLA.

Page 157.

(725.) **M. pentandra,** Hook. Very abundant on beds of snow slides at Kicking Horse Lake in the Rockies and westward to the summit of the Selkirks, B.C. (*Macoun.*)

(726.) **M. trifida,** Graham. Abundant on Cathedral Mountain, Kicking Horse Pass, Rocky Mountains. (*Macoun.*)

(2144.) **M. Breweri,** Gray. On the western summit of the North Kootanie Pass, Rocky Mountains, 1883. (*Dawson.*) On the slopes of Mounts Carroll and Dawson, Selkirk Range, B.C., 1885. (*Macoun.*)

182. HEUCHERA.

(728.) **H. micrantha,** Dougl. Harrisburg, Alaska. (*Meehan.*) North Point of Texada Island, Gulf of Georgia, and Coldwater River, B.C. (*Dawson.*)

(729.) **H. glabra,** Willd. Abundant on the slopes of Mounts Carroll and Dawson, and along Bear Creek and other small streams at the Selkirk summit, B.C. (*Macoun.*) Harrisburg, Alaska. (*Meehan.*)

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(731.) **H. cylindrica,** Dougl. var. **alpina,** Watson.

H. Hallii, Gray. Part I.

All references under *H. Hallii,* belong here. Crow Nest Pass, Rocky Mountains. (*Dawson.*) On mountain slopes at Kananaskis and Castle Mountain, Rocky Mountains. (*Macoun.*)

(732.) **H. parviflora,** Nutt. Milk River Ridge, N.W.T., 1883. (*Dawson.*)

184. PARNASSIA.

(737.) **P. palustris,** Linn. Bartlett Bay, Alaska. (*Meehan.*)

(738.) **P. parviflora,** DC. Mingan Islands. (*St. Cyr.*) Rather common at the mouth of Jupiter and other rivers, Anticosti. Not uncommon at low altitudes, from Silver City in the Rocky Mountains westward to Donald in the Columbia valley, Lat. 51°. (*Macoun.*)

(739.) **P. Caroliniana,** Michx. Abundant at the mouth of the Rivière de Brig at English Bay, Anticosti. (*Macoun.*) Near the waters edge at the Whirlpool, Niagara River, and in crevices of rocks near surface of Lake Erie at Abino Point, Ont. (*David F. Day.*)

Page 160.

(740.) **P. Kotzebuei,** Cham. & Schlecht. Rather rare on high elevations on Copper Mountain and the peaks around Kicking Horse Lake, Rocky Mountains. (*Macoun.*)

(741.) **P. fimbriata,** Kœnig. Abundant along mountain streams from Silver City in the Rocky Mountains to the summit of the Selkirks, B.C. (*Macoun.*) North Branch of Old Man River, Rocky Mountains. (*Dawson.*) Fort Selkirk, Youcon River, Lat. 62° 45′. (*Schwatka.*)

185. LEPTARRHENA.

(742.) **L. pyrolifolia,** R. Br. Along mountain brooks, from 4000 feet up to the limit of permanent snow on the mountains at the Selkirk summit, B.C., Lat. 51°. (*Macoun.*)

186. PHILADELPHUS.

(743.) **P. Lewisii,** Pursh. In the Kootanie valley, B.C. (*Dawson.*) Fraser River valley, and at Victoria, B.C. (*Fletcher.*)

(744.) **P. Gordonianus,** Lind. Near Sumass Lake, Fraser River valley, B.C. (*A. Bowman.*)

187. RIBES.

(749.) **R. Cynosbati,** Linn. Pembina Mountain specimens referred here belong to *R. oxyacanthoides.*

Page 162.

(751.) **R. setosum,** Lindl. Shores of Lake Nipigon, growing in sand. (*Macoun.*) Grindstone Point, Lake Winnipeg; Moose Mountain, and Moose-Jaw Creek, N.W.T. (*J. M. Macoun.*) Frequent on dry ground and in thickets, from Morley westward up the Bow River valley to Canmore, within the Rocky Mountains. (*Macoun.*)

Page 163.

(754.) **R. Hudsonianum,** Richards. On the roadside, in a swamp between Colborne and Castleton, Northumberland Co., Ont., and in abundance in swamps at Red Rock, Lake Superior and around Lake Nipigon. (*Macoun.*) Dog Head, Lake Winnipeg, and at Maple Creek, N.W.T. (*J. M. Macoun.*) This is the "black currant" of the prairie regions, and produces abundance of fine fruit. Common in a swamp near Reed Lake, N.W.T.; in thickets, from Morley through the Rocky Mountains to Donald in the Columbia valley, Lat. 51°. (*Macoun.*) Fort Wrangel, Alaska. (*Meehan.*)

(759.) **R. viscosissimum,** Pursh. South Kootanie Pass, Rocky Mountains. (*Dawson.*) Very abundant on the lower slopes of the mountains at the Selkirk summit, Lat. 51°. Fruit, dark purple, covered with a bloom, and black hairs. Has the habit of *R. laxiflorum*, but is doubtfully referred here. Possibly a new species. (*Macoun.*)

188. PENTHORUM.

Page 164.

(762.) **P. sedoides,** Linn. Beauport near Quebec. (*St. Cyr.*)

189. SEDUM.

(763.) **S.** ACRE, Lindl. In the Cemetery at St. Charles, Q. (*St. Cyr.*)

(764.) **S. stenopetalum,** Pursh. Abundant on the lower or sub-alpine slopes of the Rocky Mountains, from the Kananaskis to Kicking Horse Lake. (*Macoun.*) In crevices of rocks near Victoria, Vancouver Island. (*Fletcher.*)

(2145.) **S. Douglasii,** Hook. Fl. I., 228. East end of Cypress Hills, N. W. T., 1884. (*J. M. Macoun.*) Rocky slopes, Crow Nest Lake, Rocky Mountains, 1883. (*Dawson.*)

Page 165.

(769.) **S. Rhodiola,** DC. Nain, Nachvak and Ford's Harbor, coast of Labrador; also Cape Chudleigh, Hudson Strait. (*R. Bell.*) Mingan Islands and Ile du Grand Mecatina. (*St. Cyr.*) Minister's

Face, N.B. (*Wetmore.*) At St. George, five miles from the coast, N.B. (*Vroom.*) On damp slopes, in ravines and rock crevices, from the Kananaskis to Silver City, Rocky Mountains, Lat. 51°.

(770.) **S. Rhodanthum,** Gray. Mr. Watson places the specimens with the preceding species, and hence this name must be dropped.

190. DROSERA.

(772.) **D. Anglica,** Hudson. Specimens from the Porcupine Mountains, Man., Lat. 53° belong here. Abundant in bogs and marshes along Beaver Creek, Selkirk Mountain, Lat. 51° B.C. (*Macoun.*)

Page 166.

(773.) **D. intermedia,** Drev. & Hayne. Var. **Americana,** DC. Abundant in a marsh at Salt Lake, Anticosti. (*Macoun.*) St. John Co., N.B. (*Hay.*) Lac Travers, Champlain Co., Q. (*St. Cyr.*)

192. MYRIOPHYLLUM.

(776.) **M. spicatum,** Linn. In ponds and stagnant water, from Morley through the Rocky Mountains, at low altitudes, to the Columbia valley and the Selkirks along Beaver Creek.

193. PROSERPINACEA.

Page 167.

(780.) **P. palustris,** Linn. Digdeguash and St. Patrick, Charlotte Co., N.B. (*Vroom.*)

194. HIPPURUS.

(781.) **H. vulgaris,** Linn. Cape Chudleigh, Hudson Strait. (*R. Bell.*)

(782.) **H. maritima,** Hellenius. Digges Island, off Cape Wolstonholme, Hudson Strait. (*R. Bell.*) Anse du Grand Etang; also, south shore of the Gulf of St. Lawrence, Gaspé Co., Q. (*St. Cyr.*)

Page 168.

(783.) **H. montana,** Ledeb. In the flats along Glacier Creek a little above the railway bridge west of the Selkirk summit, 1885, Lat. 51°. (*Macoun.*)

578. CALLITRICHE, Linn. (WATER STAR-WORT.)

(2146.) **C. verna,** Linn. Common in ditches, pools and streams, from Nova Scotia and New Brunswick, through Quebec, Ontario, and the prairie region, and across the Rocky Mountains into British Columbia.

(2147.) **C. autumnalis,** Linn. In a pond at Rothesay station, N.B. (*Fowler's Cat.*) In Brigham's Creek, near Hull, Q. (*Fletcher.*) Abundant, Railway Bay, near Prescott, Ont. (*Billings.*) In the Bay of Quinte at Zwick's Island, and Hay Bay, near Belleville, Ont. (*Macoun.*) Pools in Wascana Creek, near Regina, N.W.T. (*Cowdry.*) Souris River, south-west of Moose Mountain, N.W.T. (*J. M. Macoun.*)

196. EPILOBIUM.

(786.) **E. angustifolium,** L. var. **canescens,** Wood. Lake of the Woods, Man. (*Burgess.*)

Page 169.

(788.) **E. luteum,** Pursh. In swamps, along brooks and around springs, Beaver and Bear Creek valleys, in the Selkirk Mountains, B.C. (*Macoun.*)

(789.) **E. alpinum,** Linn. Cape Chudleigh, entrance to Hudson Strait. (*R. Bell.*) On the summits of Copper and Castle Mountains, and westward through the Rockies to the Selkirk summit, Lat. 51°. (*Macoun.*) Pyramid Harbor and Keneshow Island, Alaska. (*Meehan.*)

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(792.) **E. coloratum,** Muhl. Brigus, east coast of Newfoundland. (*R. Bell.*)

(793.) **E. minutum,** Lindl. Yale Mountain, B. C. (*Fletcher.*) Fort Wrangel, Alaska. (*Meehan.*)

(795.) **E. paniculatum,** Nutt. Along a dry ravine at the Sweet Grass Hills, N.W.T. (*Burgess.*) Departure Bay, Vancouver Island. (*Meehan.*) Abundant at Victoria, B.C. (*Fletcher.*)

(796.) **E. molle,** Torrey. In a swamp at Kingston, N. S. (*Burgess.*)

(797.) **E. affine,** Boug. Fort Wrangel, Alaska. (*Meehan.*)

197. ŒNOTHERA.

Page 173.
(807.) **Œ. cæspitosa,** Nutt. Moose Jaw Creek, N.W.T. (*J. M. Macoun.*)

198. CODETIA.

(810.) **C. amœna,** Lilja. Abundant along the Sooke Road, Vancouver Island. (*Fletcher.*)

(2148.) **C. epilobioides,** Watson.
Œnothera epilobioides, Nutt. Torr. & Gray, Fl. I., 511.
Mount Finlayson, Vancouver Island. (*Fletcher.*)

200. BOISDUVALIA.

Page 174.
(813.) **B. densiflora,** Watson. On dry gravelly ground around Victoria, Vancouver Island, 1883. (*Fletcher.*)

201. GAURA.

(816.) **G. biennis,** Linn. At Fort Erie, Ont. (*David F. Day.*)

202. CIRCŒA.

Page 175.
(819.) **C. Pacifica,** Aschers. At Donald in the Columbia valley and westward up Beaver Creek valley; quite common around the Selkirk summit. (*Macoun.*)

Note.

Melastomaceæ and *Lythraceæ* were inadvertantly placed after *Onagraceæ,* instead of before it, as they should have been.

203. RHEXIA.

(820.) **R. Virginica,** Linn. In wet crevices of rocks close to water's edge, Black-stone Lake, Muskoka Co., Ont. (*Burgess.*)

204. LYTHRUM.

(821.) **L. alatum,** Pursh. Low wet sandy places at Point Edward, Ont. (*J. M. Macoun.*) In ditches along the Great Western railway, four miles east of Windsor, Ont. (*Macoun.*)

(822.) **L. Salicaria,** Linn. Abundant in meadows amongst the ruins of Louisburg, Cape Breton. (*Macoun & Burgess.*) Island of Orleans, Q. (*St. Cyr.*) Longueuil, P.Q. (*T. V. Macdonald.*)

206. MENTZELIA.

Page 176.
(825.) **M. lævicaulis,** Torr. & Gray. Mountain side, Spence's Bridge, B.C. (*Fletcher.*)

207. SICYOS.

(827.) **S. angulatus,** Linn. Point Abino, Lake Erie, Ontario. (*David F. Day.*)

208. ECHINOCYSTIS.

(828.) **E. lobata,** Torr. & Gray. Surely indigenous in this neighborhood. Various places in Ontario, near Buffalo. (*David F. Day.*) Abundant in willow and other thickets west shore of Lake Winnipeg; also along the Souris and Qu'Appelle Rivers. (*J. M. Macoun.*) Indigenous along river banks at London and other places in western Ontario. (*Burgess.*)

210. OPUNTIA.

Page 178.
(2149.) **O. fragilis,** Haw. Not uncommon on dry rocks, on islands in the Lake of the Woods, 1884. (*A. C. Lawson.*) This, then, must be the plant referred to by Sir John Richardson as the "prickly pear," but which has not been detected within the last half century. On dry rocks, Hernando and neighbouring islands, Gulf of Georgia, B. C., 1885. (*Dawson.*) Cadboro' Bay, Victoria, Vancouver Island, (*Fletcher.*)

211. MOLLUGO.

(833.) **M. verticillata,** Linn. Abundant on the railway track at Windsor, Ont. (*Macoun.*) Fort Erie, Ont. (*David F. Day.*)

213. SANICULA.

(835.) **S. Canadensis,** Linn. Lower Norton and Sussex, N.B. (*Brittain.*) Ellis Bay, Anticosti. (*St. Cyr.*)

Page 179.

(836.) **S. Marylandica,** Linn. Near Bull River bridge, Kootanie valley, Rocky Mountains. (*Dawson.*) Common at the Kananaskis, Rocky Mountains, and in the Columbia valley at Donald, B.C. (*Macoun.*) At Agassiz, Fraser River valley, B.C. (*Fletcher.*)

(837.) **S. Menziesii,** Hook. & Arn. Cedar Hill, Vancouver Island. (*Fletcher.*)

(839.) **S. bipinnatifida,** Dougl. Beacon Hill, Victoria, Vancouver Island. (*Fletcher.*)

214. CONIUM.

(840.) **C. maculatum,** Linn. At Fort Erie, Ont. (*David F. Day.*) Not uncommon in the streets of Sarnia, Ont. (*Macoun.*)

215. MUSENIUM.

(841.) **M. divaricatum,** Nutt. Moose Mountains, and Swift Current Creek, N.W.T. (*J. M. Macoun.*) Along Belly River, N.W.T. (*Dawson.*) Regina, N.W.T. (*Cowdry.*)

Page 180.

Var. **Hookeri,** Torr. & Gray.

M. trachyspermum, Nutt. Porter Fl. Col. 51.

Abundant in crevices of rocks at Morley along the Bow River. (*Macoun.*) Foot-hills near Pincher Creek, N.W.T. (*Dawson.*)

218. CARUM.

(846.) **C. Cairdneri,** Benth. & Hook. In the dry beds of streams 50 miles south of Battleford. (*Macoun.*) North Fork of Old Man River, N.W.T. (*Dawson.*)

220. THASPIUM.

Page 181.

(848.) **T. barbinode,** Nutt. Foster's Flats, Niagara River, Ont., 1884. (*Macoun.*)

(849.) **T. aureum,** Nutt. Norton, Rothesay, and Kennebekasis River, N.B. (*Hay.*) Selkirk, near the mouth of Red River, Man. (*J. M. Macoun.*) Casselman, 30 miles from Ottawa. (*Miss I. Grant.*)

579. BERULA.

(2150.) **B. angustifolia,** Koch.

Sium angustifolium, Linn. Gray, Man. 196, 1868.
S. pusillum, Nutt. Torr. & Gray, Fl. I., 611.
? *Helosciadium* (?) *Californicum*, Hook. Fl. I., 260.

Near Port Colborne, Ont., July, 1882. (*David F. Day.*)

225. BUPLEURUM.

Page 182.

(857.) **B. ranunculoides,** Linn. Fort Selkirk, Youcon River, Lat. 62° 45'. (*Schwatka.*)

(2151.) **B.** ROTUNDIFOLIUM, Linn. On ballast heaps, St. John, N.B. (*Hay.*) Ottawa. (*Fletcher.*)

226. OSMORRHIZA,

Page 183.

(858.) **O. longistylis,** DC. Pollet River, near Petitcodiac, N.B. (*Brittain.*) Island of Orleans, Q. (*St. Cyr.*) Campbellton, N.B. (*Chalmers.*) Camp Alexander, Nipigon River, Ont. (*Macoun.*) Medicine Hat, South Saskatchewan River. (*J. M. Macoun.*)

(860.) **O. nuda,** Torrey. Abundant in low thickets from the Kananaskis in the Rocky Mountains westward to the Selkirks, B.C. I have never observed *O. brevistylis* in the mountains. (*Macoun.*) Common on Vancouver Island. (*Fletcher.*)

227. GLYCOSMA.

(861.) **G. occidentale,** Nutt. Western summit of North Kootanie Pass, Rocky Mountains. (*Dawson.*)

584. ŒNANTHE, Linn.

(2206.) **Œ. sarmentosa,** Nutt.

Phellandrium aquaticum, Pursh Fl. I., 195.

Departure Bay, Vancouver Island. (*Meehan.*)

230. LIGUSTICUM.

Page 184.

(864.) **L. Scoticum,** Linn. Caribou, coast of Labrador. (*Butler.*) Rather common on the Mingan islands. (*St. Cyr.*) Abundant on the shores of Anticosti, at Salt Lake and other points. (*Macoun.*) Seashore near St. John, N.B. (*Hay.*) Baie des Chaleurs, near Campbellton, N.B. (*Chalmers.*)

(2207.) **L. apiifolium,** Benth. & Hook.

Cynapium apiifolium, Nutt. Torr. & Gray Fl. I., 641.

Abundant in marshes along Beaver Creek and other streams in the Selkirk Mountains, Lat. 51°. (*Macoun.*)

231. SELINUM.

(866.) **S. Canadense,** Michx. Crevices of rocks, St. Mary's River, Anticosti. (*Macoun.*) Spurr's Cove, St. John, N.B. (*Hay.*) Campbellton, N.B. (*Chalmers.*) St. Irénée, Charlevois Co., Q. (*St. Cyr.*)

Page 185.

(868.) **S. Benthami,** Watson. Michel Creek, Rocky Mountains; Queen Charlotte Islands, B.C. (*Dawson.*) The specimens from both localities are very imperfect and are placed here provisionally.

232. ANGELICA.

(2152.) **A. Dawsoni,** Watson. Summit of South Kootanie Pass, 1881; and Crow Nest Pass, Rocky Mountains, 1883. Mr. Sereno Watson considers this a very distinct species and has very properly named it after the discoverer, Dr. G. M. Dawson, who has done so much in working out our Rocky Mountain flora.

(2153.) **A. Lyallii,** Watson (?). An imperfect specimen collected on the summit of the South Kootanie Pass, Rocky Mountains, by Dr. G. M. Dawson in August, 1881, is referred here. It is without fruit but agrees perfectly in leaves and flowers.

333. ARCHANGELICA.

(871.) **A. atropurpurea,** Hoffm. Not uncommon along the coast of Anticosti at Salt Lake. (*Macoun.*) Both sides of Niagara River. (*David F. Day.*) Common at London. Ont. (*Burgess.*)

Page 186.

(872.) **A. Gmelini,** DC. Along the south-west coast of Anticosti, not rare. (*Macoun.*) Straits of Belle Isle and Mingan Islands. (*St. Cyr.*) Sooke, Vancouver Island. (*Fletcher.*) Harrisburg, Alaska. (*Meehan.*)

234. CYMOPTERUS.

(875.) **C. glomeratus,** Raf. In gravelly soil, Moose Mountain Creek, N.W.T. (*J. M. Macoun.*) Dry prairie near Regina, N.W.T. (*N. H. Cowdry.*)

235. PEUCEDANUM.

(876.) **P. leiocarpum,** Nutt. Drew's Harbor, B.C. (*Dawson.*)

Page 187.

(877.) **P. triternatum,** Nutt. East of Crow Nest Lake, Crow Nest Pass, Rocky Mountains, 1883. (*Dawson.*) Not uncommon on a dry flat west of Canmore station, Rocky Mountains, Lat. 51°, 1885. (*Macoun.*)

(880.) **P. fœniculaceum,** Nutt. Cypress Hills and Moose Mountain, N.W.T. (*J. M. Macoun.*) Regina, N.W.T. (*N. H. Cowdry.*)

(881.) **P. macrocarpum,** Nutt. Moose Mountain Creek and Cypress Hills, N.W.T. (*J. M. Macoun.*)

Var (?) **eurycarpum,** Gray. On dry gravelly hillsides, along the Kicking Horse River, at Golden City. Columbia valley, 1885. (*Macoun.*)

(2154.) **P. villosum,** Nutt. Coal Banks, Belly River, N.W.T., 1883. (*Dawson.*) Maple Creek, N.W.T., 1884. (*J. M. Macoun.*)

(2155.) **P.** ——— ? Summit of South Kootanie Pass, 1881; also, summit of North Kootanie Pass, Rocky Mountains, 1883. (*Dawson.*)

237. FERULA.

Page 188.

(884.) **F. dissoluta,** Watson. Abundant in the vicinity of Victoria, Vancouver Island. (*Fletcher.*)

238. DAUCUS.

(886.) **D. pusillus,** Michx. Var. **microphyllus,** Torr. & Gr. Drew's Harbor and Mary Island, B.C. (*Dawson.*)

(887.) **D.** CAROTA, Linn. Has been firmly established for years near the village of Nelson, Halton Co., Ont. A common roadside weed. (*Burgess.*)

580. CAUCALIS, Linn.

(2156.) **C.** NODOSA, Huds. Adventitious in waste places, St. Stephen, N.B. (*Vroom.*)

240. ARALIA.

Page 189.

(891.) **A. nudicaulis,** Linn. Abundant in thickets at Morley and Kananaskis, Rocky Mountains; also in the valley of the Columbia and westward in the Selkirks. (*Macoun.*) In the mountains, Spence's Bridge, B.C. (*Fletcher.*)

(892.) **A. quinquefolia,** Decaisne. Beechwood and Powell's Grove, Ottawa. (*Macoun.*) Rich woods around London, Ont. (*Burgess.*) Maple woods, 2nd range of Orvilliers, Ste. Anne de la Pérade, Q. (*St. Cyr.*)

241. FATSIA.

(894.) **F. horrida,** Benth. & Hook. Very abundant in the valley of Beaver Creek, and westward through the Selkirks, Lat. 51°. (*Macoun.*) On the Kicking Horse River in one locality, and sparingly southward in a few other places on west side of Rocky Mountains. (*Dawson.*) Pyramid Harbor, and Harrisburg, Alaska. (*Meehan.*)

242. CORNUS.

Page 190.

(895.) **C. Canadensis,** Linn. Coast of Labrador at Nain. (*R. Bell.*)

(896.) **S. Suecica,** Linn. Ford's Harbor, coast of Labrador. (*R. Bell.*) Watstreeshoo, Mingan Island. (*St. Cyr.*)

(899.) **C. Nuttallii,** Audubon. Abundant on Mount Finlayson and around Victoria, Vancouver Island. (*Fletcher.*)

Page 191.

(903.) **C. pubescens,** Nutt. Abundant at Victoria and in the Fraser River valley, B.C. (*Fletcher.*)

(906.) **C. alternifolia,** Linn. Borders of the River St. Charles, Quebec. (*St. Cyr.*)

PART II.

245. SAMBUCUS.

Page 193.

(2157.) **S. melanocarpa,** Gray. Very common on beds of snow-slides and in damp thickets from Donald in the Columbia valley through the Selkirks. (*Macoun.*)

(909.) **S. racemosa,** Linn. Both this and var. *pubens* are made one form in Gray's late work, and should be united under the above name.

Var. **arborescens,** Torr. & Gray. Washington Territory to Sitka. (*Gray.*) It is probable our Pacific Coast form is this variety.

546. VIBURNUM.

Page 194.

(912.) **V. cassinoides,** Linn. Read thus instead of *V. nudum*, var. *cassinoides*, Torr. & Gray.

(913.) **V. dentatum,** Linn. Chiputneticook Falls, and St. Stephen, N.B. (*Vroom.*) In thickets on Pelee Point, Essex Co., Ont. (*Macoun.*)

Page 195.

(916.) **V. pauciflorum,** Pylaie. Tay's Mills, York Co., N.B. (*Moser.*) Along the Tobique River, N.B. (*Hay.*) Topsail, east coast of Newfoundland. (*R. Bell.*) Mingan Islands. (*St. Cyr.*) New Westminster, B.C. (*Fletcher.*)

247. LINNÆA.

(919.) **L. borealis,** Gronov. Var. **longiflora,** Torrey. Not uncommon in woods at Victoria, Vancouver Island, 1885. (*Fletcher.*)

248. SYMPHORICARPUS.

Page 196.

(921.) **S. racemosus,** Michx. Var. **pauciflorus,** Robbins. Dog Head, Lake Winnipeg. (*J. M. Macoun.*) At Field in the Kicking Horse valley, Rocky Mountains. (*Macoun.*) Vicinity of Victoria, Vancouver Island. (*Fletcher.*)

249. LONICERA.

(923.) **L. hispidula,** Dougl.

L. hispidula, Dougl. Var. *Douglasii,* Gray, Part II.

Mount Finlayson, near Victoria, Vancouver Island. Rare. Along the Sooke road, Vancouver Island. (*Fletcher.*)

(924.) **L. hirsuta,** Eaton. Flat Rock Portage, Lake Nipigon; and along the Assiniboine River at Fort Ellice, Man. (*Macoun.*) Dog Head, Lake Winnipeg. (*J. M. Macoun.*)

Page 197.

(925.) **L. Sullivantii,** Gray. Specimens collected at Milk River Ridge, Long. 112°, N.W.T., and referred to *L. glauca,* belong here. Dr. Burgess believes that his specimens from Hatchley and Saugeen, Ont., are of this species.

(926.) **L. glauca,** Hill. Quite common from Morley, westward through the Rocky Mountains, to Donald in the Columbia valley. (*Macoun.*)

Page 198.

(930.) **L. oblongifolia,** Hook. Abundant in Cedar swamps at Hatchley, Oxford Co., and in mossy bogs around Lake Arran, Bruce Co., Ont. (*Burgess.*)

(2158.) **L. Utahensis,** Watson. In the Columbia valley at Donald, and westward in the Selkirks, Lat. 51°. (*Macoun.*) South Kootanie Pass, Rocky Mountains. (*Dawson.*) Specimens collected at Dean or Salmon River, B.C., and referred to *L. ciliata*, belong here.

250. DIERVILLA.

(932.) **D. trifida,** Mœnch. Brigus, east coast of Newfoundland. (*R. Bell.*)

251. TRIOSTEUM.

(633.) **T. perfoliatum,** Linn. Cap Rouge, near Quebec. (*St. Cyr.*)

252. CEPHALANTHUS.

(934.) **C. occidentalis,** Linn. St. Stephen, and St. James, N.B. (*Vroom.*)

253. HOUSTONIA.

Page 199.
(935.) **H. purpurea,** L. Var. **longifolia,** Gray. Not rare on light sandy soil near Mount Pleasant, Brant Co., Ont. (*Burgess.*)

255. GALIUM.

Page 201.
(939.) For **G. asprelum,** read **G. asprellum.**

(941.) **G. trifidum,** Linn. Var. **pusillum,** Gray. Island of Orleans, near Quebec. (*St. Cyr.*) Not rare from Kicking Horse Lake, Rocky Mountains, to the summit of the Selkirks, Lat. 51°. (*Macoun.*)

Page 203.
(947.) **G. Kamtschaticum,** Steller. Mountains of Gaspé, Quebec. (*Dr. Allen.*) Unalaska. (*Gray.*)

(2159.) **G.** TRICORNE, Linn. Occasionally spontaneous in gardens at London, Ont. (*Burgess.*)

257. VALERIANA.

Page 204.

(952.) For **V. dioica,** L. Var. **sylvatica,** Watson, read **V. sylvatica.** (*Banks.*)

Var. **uliginosa,** Torr. & Gray. Roadsides, Asylum, London, Ont. (*Burgess.*) Meadows, Niagara Falls, Ont. (*Millman.*)

(953.) For **V. capitata,** Willd. Var. **Hookeri,** Torr. & Gray, read **V. Sitchensis,** Bong. All our references under both forms, except the extreme northern ones, belong here. Rather rare on mountain slopes from Kicking Horse Lake in the Rocky Mountains to the Selkirk summit, B.C. (*Macoun.*)

(2160.) **V. capitata,** Pall. Alaskan coast and islands, north to arctic region. (*Gray.*) The northern notices of the preceding belong here.

258. PLECTRITIS.

Page 205.

(2161.) **P. macrocora,** Torr. & Gray, Fl. II., 50.

P. congesta, var. *minor,* Hook. Fl. I., 291.

In woods along the Saanich road, Vancouver Island, 1885. (*Fletcher.*)

(2162.) **P. samolifolia,** Hoeck.

P. congesta, DC. Part II. in part.

In low grassy places around Victoria, Vancouver Island. (*Macoun.*) Cedar Hill and Mount Finlayson, Vancouver Island. (*Fletcher.*)

261. VERNONIA.

Page 206.

(2163.) **V. altissima,** Nutt. In damp places, St. Clair Flats, Ont., 1884. (*J. M. Macoun.*) Along the Great Western railway and margins of fields near Windsor, Ont., 1885. (*Macoun.*) The reference to Essex Centre under No. 958 may belong here, as only leaves were obtained.

262. EUPATORIUM.

(959.) **E. purpureum,** Linn. Our specimens of this species nearly all belong to the variety *maculatum,* and hence should read *E. purpureum,* L. Var. *maculatum,* Darl. Topsail, east coast of Newfoundland. (*R. Bell.*)

265. LIATRIS.

Page 207.

(2164.) **L. squarrosa,** Willd. Dry gravelly or sandy soil, western Ontario. (*Gray.*) Not noticed by any of the late collectors.

Var **intermedia,** DC. Same situation as the type. (*Gray.*) Not lately collected.

(2165.) **L. spicata,** Willd.

L. macrostachya, Michx. Fl. II., 91.

Not uncommon in marshy meadows between Point Edward and Sarnia, Ont., 1884. (*Macoun.*)

267. GRINDELIA.

Page 208.

(970.) **G. integrifolia,** DC. North Point of Texada Island, Gulf of Georgia, B.C. (*Dawson.*) Dr. Gray, in his Flora of North America, Vol. I., Part II., unites this and No. 971 in which we now follow him.

269. HAPLOPAPPUS.

Page 210.

(974.) **H. lanceolatus,** Torr. & Gray. Var. **Vaseyi,** Parry. Saskatchewan to Lat. 49°. (*Gray.*) On saline flats along Eagle Creek, south of the Bad Hills, N.W.T., 1879. (*Macoun.*)

(2166.) **H. Lyallii,** Gray. In northern Rocky and Cascade Mountains, Montana to Oregon and British Columbia. (*Gray.*)

(2167.) **H. Brandegeii,** Gray. Very abundant on the summits of the higher Rocky Mountains, especially around Kicking Horse Lake and Silver City ; also on the summit of Mount Dawson at the Selkirk summit, B.C., 1885. (*Macoun.*)

(977.) For **H. acaulis,** Gray. Var. **glabratus,** Watson, read **H. acaulis,** Gray. Our specimens are generally leafy above, but in no case have two heads.

270. BIGELOVIA.

(978.) For **B. graveolens,** Gray. Var. **hololeuca,** Gray, read **B. graveolens,** Gray. Wild Horse Creek, Kootanie valley, B.C. (*Dawson.*)

271. SOLIDAGO.

Page 212.

(984.) **S. macrophylla,** Pursh. Ford's Harbor, coast of Labrador. (*R. Bell.*)

(985.) **S. multiradiata,** Ait. Var. **scopulorum,** Gray. Quite common on the slopes, and along streams in the Rocky Mountains from the Kananaskis River to the Columbia, and thence through the Selkirk Range. (*Macoun.*)

Page 213.

(986.) **S. Virgaurea,** Linn. Var. **alpina,** Bigel. Ford's Harbor, and Nachvak, coast of Labrador. (*R. Bell.*) South-west Point of Anticosti. Some of my Lake Superior specimens have been referred here on authority, but I think they belong to *S. humilis.* (*Macoun.*) A solitary specimen which may probably belong to some form of this species was collected in 1879, near Tail Creek, N. W. T., by David Macoun. It seems to connect *S. macrophylla* with this species all the flowers being in thyrsoid clusters in the axils of the ample leaves.

(987.) **S. humilis,** Pursh. On gravelly or dry slopes from Morley through the Rocky Mountains to Donald in the Columbia valley. (*Macoun.*)

(990.) **S. puberula,** Nutt. Truemanville, N.S. (*Trueman.*) Norton, N.B. (*Hay.*)

Page 215.

(1000.) **S. Missouriensis,** Nutt. Damp or wet meadows, Point Edward, River St. Clair, Ont. (*J. M. Macoun.*)

Page 216.

(1005.) **S. nemoralis,** Ait. Not uncommon at Morley and at Golden City, mouth of Kicking Horse River, Rocky Mountains. (*Macoun.*)

Page 217.

(1006.) **S. rigida,** Linn. Common along the Grand Trunk railway, a mile west of London, Ont. (*Burgess.*)

(1007.) **S. Ohioensis,** Riddell. Marshy ground, Point Edward, River St. Clair, Ont. (*J. M. Macoun.*)

(2168.) **S. Riddellii,** Frank.

S. amplexicaulis, Mertens. Torr. & Gray, Fl. II., 210.

Marshy ground, Point Edward, River St. Clair, Aug. 1884. (*Macoun.*)

273. TOWNSENDIA.

Page 218.

(1012.) For **T. florifer,** read **T. Parryi,** Eaton. Var. **alpina,** Gray. Summit between High River and Sheep Creek, Rocky Mountains, 1884. (*Dawson.*)

275. ASTER.

Page 219.

(1019.) **A. radula,** Ait. Var. **strictus,** Gray. In bogs or swamps, Lake Mistassini, North-east Territory. (*J. M. Macoun.*)

(1020.) **A. Sibiricus,** Linn. This is made, by Dr. Gray, to include both *A. montanus* and the var. *arcticus.* Abundant in river bottoms on gravel, from Morley through the Rocky Mountains to Donald, in the Columbia valley. (*Macoun.*)

Page 220.

(1021.) **A. conspicuus,** Lindl. Abundant in thickets through the RockyMountains, from Morley to Donald. (*Macoun.*)

Page 221.

(1031.) **A. azureus,** Lindl. Sandy soil, Point Edward, River St. Clair, Ont., 1884. (*J. M. Macoun.*)

Page 222.

(1032.) **A. undulatus,** Linn. Sandy woodlands, not common, London, Ont. (*Burgess.*)

(1034.) **A. Lindleyanus,** Torr. & Gray. In thickets, Petitcodiac, N.B. (*Brittain.*) Not uncommon in woods around Ottawa, Ont., and at Hull and Chelsea, Q. (*Fletcher.*) Magpie River, north of Lake Superior. (*Macoun.*) Dog Head, Lake Winnipeg, and at Lake Mistassini. (*J. M. Macoun.*) Rather common in thickets, from Morley through the Rocky and Selkirk Ranges. (*Macoun.*)

Page 223.

(1036.) **A. ericoides,** Ait. Var. **villosus,** Torr. & Gray. Open sandy thickets, Windsor, Ont. (*J. M. Macoun.*)

(1037.) **A. multiflorus,** Ait. Rather common at Windsor, and Point Edward, River St. Clair, Ont. (*J. M. Macoun.*)

(2169.) **A. commutatus,** Gray. Part II.

A. multiflorus, var. *commutatus,* Torr. & Gray, Fl. II., 125.
A. ramulosus, var. *incano-pilosus,* Lindl. & Hook., Fl. II., 13.

On dry soil at Reed Lake and Medicine Hat, N.W.T. (*Macoun.*)

(2170.) **A. vimineus,** Lam.

A. tenuifolius, L. Macoun's Cat. No. 870.

Moist ground, Ontario. (*Gray.*) Salmon River, near Shannonville, and at the Hop Yard, Belleville, Hastings Co., Ont. (*Macoun.*) Damp ground, Point Edward, River St. Clair, Ont. (*J. M. Macoun.*)

Var. **foliolosus,** Gray. In damp soil along the Nation River at Casselman, near Ottawa, Ont. (*Macoun.*) Moist ground or ditches at Windsor, and Point Edward, River St. Clair, Ont. (*J. M. Macoun.*)

Page 224.

(1040.) **A. dumosus,** Linn. In dry thickets at Windsor, Ont. (*Macoun.*)

(2171.) **A. Tradescanti,** Linn., partly.

A. tenuifolius, var. in part, Torr. & Gray, Fl. II., 132.

Open grounds, Canada, and the Saskatchewan. (*Gray.*) Point Edward, River St. Clair, Ont. (*J. M. Macoun.*)

(1041.) **A. paniculatus,** Lam. Shores of Kouchibouguasis River, and Norton, N.B. (*Fowler & Hay.*) Chipman, N.B. (*Wetmore.*) River Pentecoste, north shore of St. Lawrence. (*St. Cyr.*) Extends from the Atlantic to the base of the Rocky Mountains. (*Macoun.*)

Page 225.

(1044.) **A. junceus,** Ait.

A. æstivus, Ait., Part II.

As anticipated, Dr. Gray has united my No. 1045, *A. æstivus,* with *A. junceus,* and thereby cleared up a doubtful point.

(1046.) **A. Novæ-Belgii,** Linn. Chipman, N.B. (*Wetmore.*) Richibucto, and Carleton, N.B. (*Fowler.*) St. John, N.B. (*Hay.*) We have seen the specimens from Chipman. The specimen from the Bow River is possibly a form of *A. salicifolius.* (*Macoun.*) Common in wet grounds, New Brunswick, and Canada. (*Gray.*) This species should be investigated in Nova Scotia and New Brunswick.

(1047.) **A. tardiflorus,** Linn. Richibucto, N.B. (*Fowler's Cat.*) Petitcodiac, N.B. (*Brittain.*) Along the Ste. Anne des Monts River, Gaspé, Q. (*Macoun.*) Along streams, Quebec, New Brunswick and Labrador. (*Gray.*) Woods at Levis, near Quebec. (*St. Cyr.*)

Page 226.

(1050.) **A. Novæ-Angliæ,** Linn. Abundant in thickets from Portage La Prairie, westward to Brandon, Man. (*Macoun.*)

(1052.) **A. mutatus,** Torr. & Gray. This species and No. 1055, *A. Sayii,* Gray, Part II., are united in Gray's Synoptical Flora, Vol. I.,

Part II., under *A. modestus*, which will now be adopted. Along Nipigon River, above Lake Ellen and at Current River, near Port Arthur, Lake Superior. Quite common in the Columbia valley at Donald, and westward in the valleys of the Selkirk Range. (*Macoun.*)

(1054.) **A. foliaceus,** Lindl. South Kootanie Pass, Rocky Mountains; also along Belly River, N.W.T. (*Dawson.*) In thickets on the Cypress Hills; also on Red Deer River and Tail Creek, N.W.T. (*Macoun.*) Lake Karmutsen, Vancouver Island. (*Dawson.*)

Var. **frondeus,** Gray. Abundant along streams and mountain slopes from Kicking Horse Lake in the Rocky Mountains to the summit of the Selkirks. (*Macoun.*) South Kootanie Pass. (*Dawson.*)

Page 227.

(1056.) **A. —— ? = A. Douglasii,** Lindl. or No. 1025.

(1057.) For **A. elegans,** read **A. Oreganus,** Nutt. Along the Canadian Pacific Railway, a little east of Palliser, Kicking Horse valley; also abundant in Beaver Creek, Six-mile Creek, and Bear Creek valleys, in the Selkirk Range, B.C. (*Macoun.*) Small lake near Pincher Creek, N.W.T. (*Dawson.*)

(1058.) **A. Engelmanni,** Gray. In profusion on the slopes, north of Kicking Horse Lake, Rocky Mountains; also on Mount Carroll, along Bear Creek, Selkirk Summit, B.C. (*Macoun.*)

(1059.) **A. alpinus,** Linn. On dry soil amongst gravel in the foot-hills at Morley, and west in the Bow River valley to Canmore in the Rockies. Not alpine. (*Macoun.*)

(1062.) **A. nemoralis,** Ait. Sheldrake River, north shore of St. Lawrence. (*St. Cyr.*) Rupert River, North-east Territory. (*J. M. Macoun.*)

Page 223.

(1064.) For **A. lutescens,** Torr. & Gray, read **A. ptarmicoides,** Torr. & Gray. Var. **lutescens,** Gray.

(2172.) **A. Fremonti,** Gray.

A. adscendens, var. *Fremonti*, Torr. & Gray, Fl. II., 503.

Abundant along streams flowing into Kicking Horse Lake; also at Silver City, and through the Rockies to the Columbia valley at Donald and in the valleys of the Selkirks. Never above 5,000 feet. (*Macoun.*)

(2173.) **A. occidentalis,** Nutt. Var. **intermedius,** Gray. Abundant in the valley of Beaver Creek, near Stony Creek, Selkirk Mountains, B.C. (*Macoun.*)

(2174.) **A. prenanthoides,** Muhl. Moist ground, especially along streams, throughout Canada. (*Gray.*) We have no knowledge of this species.

276. ERICERON.

Page 230.

(1074.) **E. compositus,** Pursh. On both alpine and sub-alpine slopes from the mouth of the Kananaskis to the summits around Kicking Horse Lake, Rocky Mountains. (*Macoun.*)

Var. **glabratus,** Macoun. On the higher slopes of the mountains at Kicking Horse Lake, Rocky Mountains. Apparently rare. Leaves viscous or glandular. (*Macoun.*)

Page 231.

(1075.) **E. corymbosus,** Nutt. On dry slopes near Spence's Bridge, B.C. (*Fletcher.*)

(1079.) **E. uniflorus,** Linn. Nachvak, coast of Labrador; Cape Chudleigh, Cape Prince of Wales and Digges Island, Hudson Strait. (*R. Bell.*) On the summit of Castle Mountain, and the high peaks around Kicking Horse Lake, Rocky Mountains. (*Macoun.*)

(2175.) **E. eriocephalus,** J. Vahl. Cape Chudleigh, Cape Prince of Wales, and Digges Island, Hudson Strait. (*R. Bell.*)

Page 232.

(1081.) **E. lanatus,** Hook. On the highest peaks of Canmore and Castle Mountains, Rocky Mountains. (*Macoun.*)

Page 233.

(1085.) **E. salsuginosus,** Gray. In mountain woods and along streams from Castle Mountain, Rocky Mountains, to the Selkirk summit, B.C. (*Macoun.*)

(1086.) **E. bellidifolius,** Muhl. Cap Rouge, near Quebec. (*St. Cyr.*)

Page 234.

(1091.) **E. alpinus,** Linn. All specimens referred to this species, in our possession, are *E. acris* and its var. *Drœbachensis.*

(1092.) **E. acris,** Linn. On both the alpine and subalpine slopes of the Rocky and Selkirk Ranges, B.C. (*Macoun.*)

Var. **Drœbachensis,** Blyth. Dog Head, Lake Winnipeg. (*J. M. Macoun.*) Rather common on the lower slopes of the Rocky Mountains and in the Bow, Kicking Horse and Columbia valleys, Lat. 51°. (*Macoun.*)

Var. **debilis,** Gray. Hudson Bay and North Labrador. (*Gray.*) On gravel at the mouth of Jupiter River, Anticosti. (*Macoun.*)

(2176.) **E. poliospermus,** Gray. Eastern summit of the North Kootanie Pass, 1883. (*Dawson.*)

(2177.) **E. flagellaris,** Gray. Imperfect specimens, which may be this species, have been gathered at Spence's Bridge, B.C., by A. J. Hill. Better specimens are necessary before we can be certain.

277. ANTENNARIA.

Page 235.

(1096.) **A. racemosa,** Hook. Abundant on the higher mountain slopes, from Silver City in the Rockies to the summit of the Selkirk Range, B.C. (*Macoun.*)

Page 236.

(1098.) **A. dioica,** Gærtn. Var. **rosea,** Eaton. Abundant along the slopes of subalpine valleys, from Morley westward through the Rockies to the Columbia valley at Donald, B.C. (*Macoun.*)

(1099.) **A. alpina,** Gærtn. Cape Chudleigh, Cape Prince of Wales, Upper Savage Islands, and Digges Island, Hudson Strait. (*R. Bell.*) On the summits of the high mountains from the Kananaskis through the Rockies to the Selkirk summit, B.C. (*Macoun.*)

(1100.) **A. Carpathica,** R. Br. On the summits of the high mountains at Kicking Horse Lake, Rocky Mountains. (*Macoun.*)

Var. **pulcherrima,** Hook. In profusion on the prairies around Morley and westward along brooks and streams, and in marshy meadows through the Rocky and Selkirk Ranges, Lat. 51°. (*Macoun.*)

279. GNAPHALIUM.

Page 237.

(2178.) **G. microcephalum,** Nutt. In damp places, Canadian Pacific Railway crossing of Fraser River, B.C., 1883. (*Fletcher.*)

Page 238.

(1111.) **G. purpureum,** Linn. Abundant amongst grass at Port Colborne, Ont. (*Macoun.*) Abundant at and in the vicinity of Victoria, Vancouver Island. (*Fletcher.*)

281. ADENOCAULON.

Page 239.

(1113.) **A. bicolor,** Hook. Rather rare along the Canadian Pacific Railway between Six-mile Creek and Stony Creek in the Selkirk Mountains, B.C. (*Macoun.*) North Point of Texada Island, Gulf of Georgia, B.C. (*Dawson.*)

283. SILPHIUM.

(1116.) **S. perfoliatum,** Linn. Along the margins of fields, in thickets near Windsor, Ont. (*Macoun.*)

285. AMBROSIA.

(1119.) **A. trifida,** Linn. Beauport, near Quebec; also Baie du Fabre, Yamaska Co., Q. (*St. Cyr.*)

286. FRANSERIA.

Page 241.

(1123.) **F. bipinnatifida,** Nutt. Between Cape Lazo and Shelter Point, Gulf of Georgia, B.C. (*Dawson.*)

288. HELIOPSIS.

Page 242.

(1128.) **H. scabra,** Dunal. Sugar Island, St. John River, N.B. (*Moser.*) Very likely this is *Helianthus decapetalus.* (*Macoun.*) In thickets at Selkirk, Portage La Prairie and Brandon. (*J. M. Macoun.*)

289. RUDBECKIA.

(1130.) **R. laciniata,** Linn. Island of Orleans. (*St. Cyr.*)

290. ECHINACEA.

Page 243.

(1132.) **E. angustifolia,** DC. Not rare on prairies around Brandon, Man. (*Macoun.*)

291. BALSAMORHIZA.

(2179.) **B. hirsuta,** Nutt. Utah to British Columbia. (*Gray.*)

580. WYETHIA.

(2180.) **W. amplexicaulis,** Nutt.

Silphium læve, Hook. Lond. Journ. Bot. VI., 244.

Borders of British Columbia. (*Gray.*)

292. HELIANTHUS.

Page 244.

(1136.) **H. petiolaris,** Nutt. Introduced from the prairies at Field in the Kicking Horse valley, Rocky Mountains. (*Macoun.*) Tobacco Plains, Rocky Mountains. (*Dawson.*)

(1138.) **H. Nuttallii,** Torr. & Gray. In some abundance at Field, Kicking Horse valley, and at Golden City in the Columbia valley, Rocky Mountains. (*Macoun.*)

Page 245.

(1141.) **H. decapetalus,** Linn. Eel River, Carleton Co., N.B. (*Hay.*)

(1144.) **H. Maximiliania,** Schrader. Grassy Narrows, Lake Winnipeg. (*J. M. Macoun.*)

(1145.) **H.** TUBEROSUS, Linn. At Sillery and Quebec. (*St. Cyr.*)

(1146.) **H. pumilus,** Nutt. On the margins of coulées at Medicine Hat, N.W.T. (*J. M. Macoun.*) Along the Canadian Pacific Railway embankments at Silver City and Field, Rocky Mountains. (*Macoun.*)

293. ACTINOMERIS.

Page 246

(1148.) **A. squarrosa,** Nutt. Roadside and along the Thames within the limits of Chatham, Ont. (*Macoun.*)

294. [COREOPSIS.

(1150.) For **C. trichosperma,** Michx., read **C. trichosperma,** Michx. Var. **tenuiloba,** Gray. Border of a marsh at entrance to Pelee Point, Lake Erie, Ont. (*J. M. Macoun.*) On the border of a marsh at Rondeau, Lake Erie, Ont. (*Macoun.*)

(1151.) **C. tripterus,** Linn. Borders of marshes and along the Great Western railway, near Windsor, Ont. (*J. M. Macoun.*)

(1152.) **C. verticillata,** Linn. On the beach near a marsh, west of Rondeau, Lake Erie., Ont. (*Macoun.*)

(1153.) **C. lanceolata,** Linn. Cockburn Island, Lake Huron, Ont. 1866. (*J. Bell.*)

(2181.) **C. palmata,** Nutt. Plains and prairies, Winnipeg to Wisconsin. (*Gray.*) We have never seen Canadian specimens of this.

295. BIDENS.

Page 247.

(1155.) **B. frondosa,** Linn. Collected at Field, Rocky Mountains, on railway ballast, introduced in grain. (*Macoun.*)

296. MADIA.

Page 248.

(1160.) **M. Nuttallii,** Gray. North Point of Texada Island, Gulf of Georgia, B.C. (*Dawson.*) In the vicinity of Victoria, Vancouver Island. (*Meehan.*)

(1162.) For **M. dissitiflora,** Torr. & Gray, read **M. sativa,** Molina. Var. **racemosa,** Gray.

581. LAYIA, Hook. & Arn.

(2182.) **L. glandulosa,** Hook. & Arn.

Blepharipappus glandulosus, Hook. Fl. I., 316.
Madaroglossa angustifolia, DC. Prodr. V. 694.

Barren ground, British Columbia to California. (*Gray.*)

298. ERIOPHYLLUM.

Page 249.

(1165.) **E. cæspitosum,** Dougl. Var. **integrifolium,** Gray. Rocky Mountains in Montana and Wyoming to British Columbia. (*Gray.*) Between Cape Lazo and Shelter Point, Gulf of Georgia, B.C. (*Dawson.*)

301. HELENIUM.

(1168.) **H. autumnale,** Linn. Island of Orleans, Q. (*St. Cyr.*)

303. ACTINELLA.

Page 250.

(1171.) **A. Richardsonii,** Nutt. Take from No. 1170 and place under this species the following reference. On the Missouri Côteau, 49th parallel. (*Burgess.*)

305. ACHILLEA.

Page 251.

(1173.) **A. Millefolium,** Linn. Var. **lanata,** Koch. Canadian Pacific railway crossing of the Fraser River, B.C. The common form in British Columbia. (*Fletcher.*)

Var. **nigrescens,** E. Meyer. Nain, coast of Labrador. (*R. Bell.*)

308. CHRYSANTHEMUM.

Page 252.

(1181.) **C. integrifolium,** Richards. Nottingham Island, Hudson Strait. (*R. Bell.*)

(1184.) **C. Parthenium,** Pers. Around the monument, Quebec. (*St. Cyr.*)

309. MATRICARIA.

(1187.) **M. inodora,** Linn. Along the streets of Quebec. (*St. Cyr.*)

Page 254.

Var. **nana,** Hook. Digges and Mansfield islands ; also the Eskimo Village of Hyla, Hudson Strait. (*R. Bell.*)

582. COTULA, Linn.

(2183.) **C.** CORONOPIFOLIA, Linn. Abundant for some distance along a gutter in Fort Street, Victoria, Vancouver Island, 1885. (*Fletcher.*) This is the plant described but not named under No. 1331.

311. ARTEMISIA.

Page 255.

(1191.) **A. dracunculoides,** Pursh. Abundant at Morley, and westward up the Bow River valley to Banff, Rocky Mountains. (*Macoun.*)

Page 256.

(1200.) **A. discolor,** Dougl. Common on the sides of ravines at the Kananaskis and grassy slopes of Castle Mountains, Rocky Mountains; also on the slopes of the Selkirks, at the summit, B.C. (*Macoun.*) A remarkable form like var. *incompta* was collected at Kamloops, B.C., by Mr. Fletcher.

314. PETASITES.

Page 260.

(1214.) **P. palmata,** Gray. Low swampy places from Morley, westward through the Rockies, to the Selkirk summit; always in the subalpine valleys. (*Macoun.*)

Var. **frigida,** Macoun. A form intermediate between this species and the next was collected on the highest summits of the Rockies, at Kicking Horse Lake, and also at the summit of the Selkirks on Glacier Mountain. In both cases it was close to perpetual snow and never seemed to connect with the common form in the valley. The leaves, although bearing a general resemblance to those of *P. palmata*, have no sinus at the base, but the blade passes into the petiole.

(1215.) **P. sagittata,** Gray. Abundant in the valleys of the Rocky and Selkirk Mountains, Lat. 51°. (*Macoun.*)

315. ARNICA.

(1217.) **A. cordifolia,** Hook. Low thickets, from Morley, through the Rocky Mountains, to Donald in the Columbia valley. Seldom in the higher mountain woods. (*Macoun.*) Thickets along the Thompson River at Spence's Bridge, B.C. (*Fletcher.*)

Page 261.

(1218.) **A. latifolia,** Bongard. Abundant in mountain woods on the slopes at Kicking Horse Lake, in the Rocky Mountains; and on the mountain sides at the Selkirk summit, B.C. (*Macoun.*)

(1219.) **A. Chamissonis,** Less. Rather common on the lower slopes of the Rocky Mountains, from Morley westward to the Selkirk summit. (*Macoun.*) Yale Mountain and Spence's Bridge, B. C. (*Fletcher.*)

(1220.) **A. foliosa,** Nutt. On beds of snow-slides amongst brush on the north mountain, Kicking Horse River, Rocky Mountains ; also on beds of snow-slides near the glaciers at the Selkirk summit. (*Macoun.*)

(1222.) **A. alpina,** Olin. Nachvak, coast of Labrador ; also Cape Chudleigh and Cape Prince of Wales, Hudson Strait; and Fort Churchill, Hudson Bay. (*R. Bell.*) On the lower slopes of the mountains and in the foot-hills at the Kananaskis, Rocky Mountains. (*Macoun.*)

318. SENECIO.

Page 263.

(1231.) **S. palustris,** Hook. On Muskeg Island, Lake Winnipeg. (*J. M. Macoun.*)

(1234.) **S. lugens,** Richards. Sides of ravines, Cypress Hills, N.W.T. (*J. M. Macoun.*) Quite common in low grounds from the Kananaskis to Silver City, up the Bow River valley, and on Castle Mountain, Rocky Mountains. (*Macoun.*)

Var. **foliosus,** Gray. On the summits of the higher mountains at Canmore and Castle Mountain, Rocky Mountains. (*Macoun.*) Western summit of North Kootanie Pass, Rocky Mountains ; and summit of Coast Range above Hope, B.C. (*Dawson.*) The two latter references were attached to var. *exaltatus* in Part II.

Page 264.

(1235.) **S. integerrimus,** Nutt. On the Cypress Hills, at the source of Maple Creek, N.W.T. (*J. M. Macoun.*)

Page 265.

(1237.) **S. aureus,** Linn. Var. **Balsamitæ,** Torr. & Gray. Grand Falls, of St. John, and Lily Lake, N.B. (*Fowler's Cat.*) On Sand, Pelee Point, Lake Erie, Ont. (*Burgess.*) Abundant in the Rocky and Selkirk Mountains, from Morley westward in low valleys. (*Macoun.*) North Point of Texada Island, Gulf of Georgia, B. C. (*Dawson.*)

Var. **borealis,** Torr. & Gray. Nachvak, coast of Labrador. (*R. Bell.*) Magdalen Islands, Gulf St. Lawrence. (*St. Cyr.*)

Var. **croceus,** Gray. Summit of South Kootanie Pass, Rocky Mountains, 1881. (*Dawson.*) In low grounds at Silver City and Kicking Horse Lake, Rocky Mountains ; and along the Wait-a-bit at Donald, Columbia valley, B.C. (*Macoun.*)

Var. **compactus,** Gray. Crow Nest Pass, east of the lake, Rocky Mountains, 1883. (*Dawson.*)

Page 266.

(1238.) **S. canus,** Hook. On dry gravelly slopes, from Morley westward to Silver City, Rocky Mountains. (*Macoun.*) On the mountains at Spence's Bridge, B.C. (*Fletcher.*)

(1239.) For **S. Fremonti,** T. & Gr., read **S. Fremonti,** T. & Gr. Var. **occidentalis,** Gray. On the summit of Castle Mountain and the higher summits about Kicking Horse Lake, Rocky Mountains. Altitude, 7,000–8,000 feet. (*Macoun.*)

Page 267.

(1242.) **S. Pseudo-Arnica,** Less. Abundant along the south shore of James Bay, between Moose Factory and Rupert River. Scarcely above high water mark. (*J. M. Macoun.*) Mingan Islands. (*St. Cyr.*)

(1245.) **S. triangularis,** Hook. Abundant in ravines high up on the mountains, from Kicking Horse Lake in the Rocky Mountains to the Selkirk summit, Lat. 51°. (*Macoun.*)

(2184.) **S. petræus,** Klatt. Western summit of North Kootanie Pass, Rocky Mountains, 1883. (*Dawson.*) Referred to *S. resedifolius,* in Part II.

(2185.) **S.** SYLVATICUS Linn. Waste grounds, of sparing occurrence in Nova Scotia. (*Gray.*)

319. CACALIA.

Page 268.

(1249.) **C. tuberosa,** Nutt. Not rare in swampy grounds at Saugeen, Bruce Co., Ont.

323. CNICUS.

Page 269.

(1255.) **C. Pitcheri,** Torr. Sand-banks on the shores of Cockburn Island, Lake Huron, 1866. (*J. Bell.*)

(1257.) **C. pumilus,** Torr. Drummond Island, Lake Huron, 1866. (*J. Bell.*) Fishing Islands, Bruce Peninsula, Lake Huron, 1871. (*Macoun.*)

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(1261.) **C. foliosus,** Gray. In profusion in a small wet prairie, one mile west of Silver City, along the Canadian Pacific railway, Rocky Mountains. (*Macoun.*)

(1263.) **C. Hookerianus,** Gray. North Fork of Old Man River, Rocky Mountains. (*Dawson.*)

(2186.) **C. eriocephalus,** Gray. Abundant on the lower slopes of the mountains from the Kananaskis westward to Kicking Horse Lake, Rocky Mountains. (*Macoun.*)

(1294.) **C. edulis,** Gray. North-west Point of Texada Island, Gulf of Georgia, B.C. (*Dawson.*) At base of Mount Finlayson and at Cedar Hill, near Victoria, B.C. (*Fletcher.*)

325. SAUSSUREA.

(1267.) **S. alpina,** DC. Var. **Ledebouri,** Gray. On the summits of the higher Rocky Mountains, from Canmore westward to Kicking Horse Lake. (*Macoun.*)

326. CENTAUREA.

Page 272.

(1268.) **C.** NIGRA, Linn. At Brigus and Topsail, east of Newfoundland. (*R. Bell.*)

(1269.) **C.** CYANUS, Linn. Waste places and sandy commons, London, Ont. (*Burgess.*) Vacant lots, Quebec. (*St. Cyr.*)

330. LAMPSANA.

Page 273.

(1276.) **L.** COMMUNIS, Linn. Woods, Queenston Heights, Ont. (*Millman.*) Vacant lots, Quebec. (*St. Cyr.*)

331. CREPIS.

(1279.) **C. occidentalis,** Nutt. East end of Cypress Hills, N.W.T. (*J. M. Macoun.*)

Page 274.

For var. **crinita,** Gray, read **C. occidentalis,** Nutt. Var. **glanduiosa,** Torr. All the specimens, besides being canescent, have numerous dark glandular hairs on stem, leaves, and involucral scales. It is quite distinct from var. *crinita* of Washington Territory. On the mountain at back of Spence's Bridge, B.C. (*Fletcher.*)

(1280.) **C. runcinata,** Torr. & Gray. Abundant in low saline spots in the foot-hills and westward to Silver City, Rocky Mountains. (*Macoun.*)

(1282.) **C. nana,** Richards. On earthy slopes on the summits of the higher mountains, from Canmore to Kicking Horse Lake, Rocky Mountains. (*Macoun.*)

(2187.) **C. acuminata,** Nutt. On dry gravelly slopes along the Kicking Horse River at Golden City, Columbia valley, B.C., 1885. (*Macoun.*)

332. HIERACIUM.

Page 275.

(2188.) **H.** AURANTIACUM, Linn. Golden Hawkweed. Magog, Eastern Townships, Q. (*Giroux.*)

(1285.) **H.** MURORUM, Linn. On waste ground on the top of the cliffs at Point Lévis, Quebec. (*Macoun.*) In Part II., this was included in the next.

(1286.) **H. vulgatum,** Fries. Island of Orleans and Tadousac, P.Q. (*St. Cyr.*)

Page 276.

(1294.) **H. Scouleri,** Hook. On gravelly hills along Kicking Horse River, at Golden City, Columbia valley, B.C. (*Macoun.*)

(1296.) **H. gracile,** Hook. On the higher slopes of the Rocky Mountains, from Silver City westward to the Selkirk summit, Lat 51°. (*Macoun.*)

Var. **detonsum,** Gray. Near the summit of the north mountain at Kicking Horse Lake, Rocky Mountains; also in mountain woods near McLeod's Lake, B.C. (*Macoun.*)

Page 277.

(1297) **H. albiflorum,** Hook. On the lower slopes of the mountains at Kicking Horse Lake, Rocky Mountains; also along the Canadian Pacific Railway near Stony Creek, Selkirk Mountains. (*Macoun.*) Rocky hillsides near Victoria, Vancouver Island. (*Fletcher.*) North Point of Texada Island, Gulf of Georgia, B.C. (*Dawson.*)

333. LEONTODON.

(2189.) **L.** HISPIDUM, Linn. Abundant in and around Victoria, Vancouver Island. (*Meehan & Fletcher.*)

583. PICRIS, Linn.

(2190.) **P. hieracioides,** Linn. Var. **Japonica,** Regel. Sitka, *Mertens.* according to *Herder.* (*Gray.*)

(2191.) **P.** ECHIOIDES, Linn.

Helminthia echioides, Linn.

Springing up from kitchen refuse, St. Stephen, N.B. (*Vroom.*) Along the roadside between Clifton and Niagara Falls. (*Macoun.*)

335. TROXIMON.

(1301.) **T. glaucum,** Nutt. Var. **parviflorum,** Gray. Dry gravelly soil, on the hills at the mouth of Kicking Horse River, Golden City, B.C. (*Macoun.*)

Page 278.

Var. **dasycephalum,** Torr. & Gray. Common on prairies and dry gravelly spots, from Morley westward through the Rockies to Donald, in the Columbia valley. (*Macoun.*)

(1302.) **T. aurantiacum,** Hook. On prairies, mountain slopes, beds of snow-slides, and by brooks in the Rocky Mountains, from Silver City to Kicking Horse Lake, Lat. 51°. (*Macoun.*) A variety with long narrow and laciniate leaves and purple flowers, was collected at the same time. All Dr. Dawson's Rocky Mountain specimens, referred to *T. gracilens,* belong here.

336. TARAXACUM.

Page 279.

(1308.) **T. officinale,** Weber. Var. **alpinum,** Koch. On rocky soil at Nachvak, and Nain, coast of Labrador; also at Cape Chudleigh, entrance to Hudson Strait. (*R. Bell.*) On the higher summits, around Kicking Horse Lake, Rocky Mountains. (*Macoun.*)

Page 280.

Var. **lividum,** Koch. Cape Prince of Wales and Digges Island, Hudson Strait. (*R. Bell.*) Lake Mistassini, North-east Territory, and Cypress Hills, N.W.T. (*J. M. Macoun.*) Very common on all mountain sides, extending from Morley through the Rocky Mountains to Donald, in the Columbia valley. (*Macoun.*)

Var. **scopulorum,** Gray. Western summit of South Kootanie Pass, Rocky Mountains. (*Dawson.*) Common on the summits of Copper and Castle Mountains, at Silver City and westward to the high mountains at Kicking Horse Lake, Rocky Mountains. (*Macoun.*)

337. LACTUCA.

(1314.) **L. leucophæa,** Gray. Island of Orleans, Q. (*St. Cyr.*) Not uncommon around Ottawa. (*Macoun.*)

338. PRENANTHES.

Page 282.

(1316.) **P. alba,** Linn. The London reference to *P. serpentaria,* belongs here.

(1317.) **P. serpentaria,** Pursh. Along the Richibucto River, N.B. (*Fowler's Cat.*) At Quispamois, N.B. (*Hay.*)

(1319.) **P. racemosa,** Michx. Little Sheldrake River, Q. (*St. Cyr.*)

341. TRAGOPOGON.

Page 284.

(1327.) **T.** PORRIFOLIUS. Linn. Around Lotbinière, Q. (*St. Cyr.*) Victoria, Vancouver Island. (*Fletcher.*)

344. LOBELIA.

Page 286.

(1336.) **L. Kalmii,** Linn. Rather rare, along the Columbia River, at Donald, B.C. (*Macoun.*)

345. SPECULARIA.

(1338.) **S. perfoliata,** A. DC. Drew's Harbor, Gulf of Georgia, B.C. (*Dawson.*) Mount Finlayson, Victoria, B.C. (*Fletcher.*)

346. CAMPANULA.

Page 287.

(1341.) **C. uniflora,** Linn. Nachvak, coast of Labrador; Cape Chudleigh, Cape Prince of Wales, Diggès Island, and Eskimo Village of Hyla, Hudson Strait. (*R. Bell.*)

(1343.) **C. Scheuchzeri,** Vill., and var. **heterodoxa,** Gray, of Part II., are to be referred to *C. rotundifolia*, Linn. Dr. Gray, in the supplement to Parts I-II. of his Synoptical Flora of North America, arranges them as follows.

Page 288.

(1344.) **C. rotundifolia,** Linn. Petty Harbor, Newfoundland. (*R. Bell.*) Very abundant in the Rocky Mountains, from the Kananaskis to the summit of the Selkirks. (*Macoun.*)

Var. **arctica,** Lange.

C. linifolia, var. *Langsdorffiana*, A. DC. Hook. Fl. II., 27.
C. rotundifolia, var. *linifolia*, Gray, Man., 285, 1868.

This is the one—few flowered form and ranges, from Canada and Labrador to the arctic regions. (*Gray.*) Nachvak, coast of Labrador; Port Burwell, Cape Chudleigh, entrance to Hudson Strait. (*R. Bell.*) Watscheeshoo, north shore of the Gulf of St. Lawrence, (*St. Cyr.*) On mount Albert, Shickshock Mountains, Gaspé, and at Salt Lake and Jupiter River, Anticosti. (*Macoun.*)

Var. **Alaskana,** Gray.

C. linifolia, var. *heterodoxa*, Ledeb., and *Scheuchzeri*, var. *heterodoxa*, Gray Synoptical Flora, Part I., 12, chiefly.

Queen Charlotte Islands, B.C. (*Dawson.*)

(1346) **C. Scouleri,** Hook. Not uncommon at Sooke and Comox, Vancouver Island, (*Dawson.*)

349. VACCINIUM.

Page 290.

(1353.) **V. Canadense,** Kalm. On sandy or gravelly slopes along the Wait-a-bit, near Donald, Columbia valley. (*Macoun.*)

(1354.) **V. vacillans,** Solander. There is still much doubt regarding this species, and the only authentic specimens in our collection were gathered at Port Dover Junction, Ont. (*Macoun.*) The Toronto and London specimens are to be excluded. (*Burgess.*)

(1355.) **V. corymbosum,** Linn. Apparently Rare. Grand Lake, and St. Stephen, N.B. (*Hay & Vroom.*)

Page 291.

Var. **atrococcum,** Gray. Richibucto River, N.B. (*Fowler's Cat.*) Vicinity of Toronto, Ont. (*Burgess.*)

(1356.) **V. uliginosum,** Linn. Common on the coast of Labrador, at Nain, Nachvak and Ford's Harbor; also on the islands and mainland, Hudson Strait. (*R. Bell.*) Amongst rocks, Watscheeshoo, north shore of Gulf of St. Lawrence. (*St. Cyr.*)

(1358.) **V. cæspitosum,** Michx. St. Francis River and Upper St. John, N.B. (*Hay.*) Quite common on lower levels, from Morley through the Rockies to the summit of the Selkirks. (*Macoun.*)

Page 292.

(1359.) **V. Myrtillus,** Linn., var. **microphyllum,** Hook. Abundant in mountain woods, from Silver City in the Rocky Mountains to the summit of the Selkirks. (*Macoun.*) Ripe berries like red currants in color.

(1360.) **V. myrtilloides,** Gray. Var. **rigidum,** Hook. Very abundant in mountain woods, from Silver City in the Rocky Mountains westward to the Selkirk summit, at which point the beds of snow-slides are covered with this and the next species. It bears an abundance of large flat-topped, dark-colored, pleasant-tasted berrries, while *V. ovalifolium*, growing by its side, has rather oval, bluish berries, often covered with a bloom and very acid.

(1361.) **V. ovalifolium,** Smith. On beds of snow-slides at Kicking Horse Lake, Rocky Mountains; and extremely abundant in the same situations at the Selkirk summit, B.C. (*Macoun.*)

Page 293.

(1363.) **V. ovatum,** Pursh. North Point of Texada Island, Gulf of Georgia, B.C. (*Dawson.*)

351. CHIOGENES.

Page 294.

(1367.) **C. hispidula,** Torr. & Gray. In swamps at Donald, Columbia valley, and westward to the Selkirk summit, B.C. (*Macoun.*)

353. ARCTOSTAPHYLOS.

(1369.) **A. alpina,** Spreng. Ford's Harbor, coast of Labrador; also Cape Chudleigh, Cape Prince of Wales and the Eskimo Village of Hyla, Hudson Strait. (*R. Bell.*) Grand Mécatina Island, Straits of Belle Isle. (*St. Cyr.*)

354. CAULTHERIA.

Page 295.

(1372.) **C. Myrsinites,** Hook. Abundant on the summits of Mount Dawson and Glacier Mountain, summits of the Selkirks, B.C. (*Macoun.*)

356. CASSIOPE.

Page 296.

(1378.) **C. hypnoides,** Don. At Nain, coast of Labrador; also at Port Burwell, Cape Chudleigh, entrance to Hudson Strait. (*R. Bell.*)

Page 297.

(1381.) **C. tetragona,** Don. Abundant along the coast of Labrador at Nachvak; also on the coasts and islands of Hudson Straits. (*R. Bell.*)

360. LOISELEURIA.

Page 298.

(1386.) **L. procumbens,** Desv. Ford's Harbor, coast of Labrador. (*R. Bell.*) Amongst rocks, Mingan Islands. (*St. Cyr.*) Mouth of the Stickene River, Alaska. (*Cowley.*)

361. BRYANTHUS.

Page 299.

(1388.) **B. Grahamii,** Hook. We still retain this name, but the probabilities are that this is *B. empetriformis*, var. *intermedius*, Gray. Specimens from the west coast are still wanting to decide the question.

(1389.) **B. taxifolius,** Gray. Nain, Nachvak, and Ford's Harbor, coast of Labrador. (*R. Bell.*)

(1391.) **B. glanduliflorus,** Gray. On the summits of the Rocky Mountains, from Silver City westward to the Selkirk summit, B.C. (*Macoun.*)

363. LEDUM.

Page 301.

(1395.) **L. palustre,** Linn. Ford's Harbor, and Nachvak, coast of Labrador; also Cape Chudleigh, Cape Prince of Wales, and Ashe's Inlet, Upper Savage Islands, Hudson Strait. (*R. Bell.*)

(1397.) **L. glandulosum,** Nutt. Two specimens, in leaf only, gathered on Castle Mountain, above Silver City, Rocky Mountains, are doubtfully referred here. (*Macoun.*)

364. RHODODENDRON.

(1399.) **R. albiflorum,** Hook. Abundant on the higher mountain slopes, from Silver City in the Rockies, westward to the Selkirk summit. (*Macoun.*)

Page 302.

(1403.) For **R. macrophyllum,** read **R. Californicum,** Hook. Mountains between Hope and the Skagit River, B.C. (*Dawson.*) Flowers over an inch long and corolla rose purple.

(1405.) **R. Lapponicum,** Wahl. Nachvak, coast of Labrador. (*R. Bell.*)

365. MENZIESIA.

Page 303.

(1406.) **M. glabella,** Gray. Very abundant in all mountain woods, from Silver City westward to the Selkirk summit, where it forms much of the brush on the beds of snow-slides. (*Macoun.*)

(1407.) **M. ferruginea,** Smith. Summit of Yale Mountain, B.C. (*Fletcher.*) Lake Karmutsen, Vancouver Island. (*Dawson.*)

367. PYROLA.

(1409.) **P. minor,** Linn. Rather rare in cool woods at Silver City, and westward to Kicking Horse Lake, Rocky Mountains. (*Macoun.*) Agassiz, Fraser River, B.C. (*Fletcher.*)

Page 304.

(1412.) **P. elliptica,** Nutt. In cool damp woods along Beaver Creek in the Selkirk Mountains, B.C. A very stout and coarse form. (*Macoun.*)

Page 305.

(1413.) **P. rotundifolia,** Linn. Var. **bracteata,** Gray. In thick woods along Beaver and Bear Creeks, Selkirk Mountains, B. C. (*Macoun.*) Mount Finlayson, Vancouver Island. (*Fletcher.*)

Var. **pumila,** Hook. Quite common along the Labrador coast, and on the islands and coasts of Hudson Strait. (*R. Bell.*)

Page 306.

(1414.) **P. picta,** Smith. Mount Finlayson, near Victoria, Vancouver Island. (*Fletcher.*)

(1415.) **P. aphylla,** Smith. Mount Finlayson, near Victoria, Vancouver Island. (*Fletcher.*)

371. ALLOTROPA.

Page 307.

(1421.) **A. virgata,** Torr. & Gray. Mount Finlayson, near Victoria, Vancouver Island. (*Fletcher.*)

374. DIAPENSIA.

Page 308.

(1424.) **D. Lapponica,** Linn. Nain, and Ford's Harbor, coast of Labrador; Cape Chudleigh, and Upper Savage Islands, Hudson Strait. (*R. Bell.*)

376. ARMERIA.

(1426.) **A. vulgaris,** Willd. Nain, and Nachvak, coast of Labrador; Cape Chudleigh, Cape Prince of Wales, and Digges Island, Hudson Strait. (*R. Bell.*) Mingan islands, and on Grand Mécatina Island, Gulf of St. Lawrence. (*St. Cyr.*)

377. PRIMULA.

Page 309.

(1427.) **P. farinosa,** Linn. Mingan islands. (*St. Cyr.*)

(1428.) **P. Mistassinica,** Michx. Mingan islands. (*St. Cyr.*) One of the commonest plants at Lake Mistassini. (*J. M. Macoun.*) Along the Bow River flats and sands, from Morley westward to Laggan and thence to Kicking Horse Lake, Rocky Mountains. (*Macoun.*)

(2192.) **P. Egaliksensis,** Hornem. Northern Labrador. (*Lieut. Turner* fide *Gray.*)

378. ANDROSACE.

Page 311.

(1435.) **A. Chamæjasme,** Host. Abundant on gravelly soil, and along Bow River, from Morley to Silver City, Rocky Mountains, where it ascends to 7,500 feet. (*Macoun.*)

380. DODECATHEON.

Page 312.

(1440.) **D. Meadia,** Linn. Quite common at Morley and Kananaskis, and westward to Silver City, Rocky Mountains. (*Macoun.*)

Var. **frigidum,** Gray. Vicinity of Victoria, Vancouver Island. (*Fletcher.*)

381. TRIENTALIS.

Page 313.

(1442.) **T. Europœa,** Linn. Var. **arctica,** Ledeb. Sparingly in the valleys of Beaver and Bear Creeks, Selkirk Mountains, B. C. (*Macoun.*) In a swamp on Mount Finlayson, near Victoria, Vancouver Island. (*Fletcher.*)

Var. **latifolia,** Torr. At Comox, Vancouver Island. (*Dawson.*)

383. LYSIMACHIA.

Page 314.

(1449.) **L.** NUMMULARIA, Linn. Escaped freely in St. James' Cemetery, Toronto. (*Millman.*)

390. APOCYNUM.

Page 317.

(1462.) **A. androsæmifolium,** Linn. Taking the glabrous form as the type, we retain the other two varieties, and correct our statements regarding distribution. On grassy open slopes, never ascending high up in the mountains, from Morley to Donald, Columbia valley. (*Macoun.*)

Var. **incanum,** A. DC. London, Ont., and Emerson, Man. (*Burgess.*) Fraser River valley, B.C. (*A. Bowman.*)

Page 318.

(1463.) **A. cannabinum,** Linn. Var. **pubescens,** Torr. Low thickets, London, Ont. (*Burgess.*)

392. ACERATES.

Page 320.

(2193.) **A. longifolia,** Ell.

Asclepias longifolia, Michx. Fl. I., 116, mainly.
A. viridiflora, var. *lanceolata,* Part II., in part.

On the sand beaches of Point Pelee, Lake Erie. (*Macoun.*) Sand beach at Point Edward, foot of Lake Huron. (*J. M. Macoun.*)

394. CENTIANA.

Page 322.

(1480.) **C. Amarella,** Linn. Var. **acuta,** Hook. f. Fort Churchill, Hudson Bay. (*R. Bell.*) Common along stream banks and grassy slopes, from Morley westward through the Rocky Mountains to Donald, Columbia valley. (*Macoun.*) Pointe Trinité, north shore of Gulf of St. Lawrence. (*St. Cyr.*) Regina, N.W.T. (*N. H. Cowdry.*)

(1482.) **C. propinqua,** Richards. On the summit of Castle Mountain, and the mountains around Kicking Horse Lake, Rocky Mountains. (*Macoun.*)

Page 323.

(1484.) **C. quinqueflora,** Lam. On dry hillsides, rare, London, Ont. (*Burgess.*)

Page 324.

(1494.) For **C. affinis,** Griseb., read **C. Forwoodii,** Gray. This species is just published and includes all the perfectly smooth specimens we placed under this number in Part II. Douglas and Drummond's plants, very likely, belong to the next.

(1495.) For **C. puberula,** Michx., read **C. affinis,** Griseb.

(1497.) **C. Andrewsii,** Griseb. Valcartier, Quebec Co., Q. (*St. Cyr.*) In numerous places around London, Ont. (*Burgess & Saunders.*).

Page 325.

(1499.) **C. linearis,** Frœl. Var. **lanceolata,** Gray. Root River, 100 miles north of the Lake of the Woods. (*Fawcett.*)

(2194.) **C. nivalis,** Linn. Labrador, collected by Moravian Missionaries. (*Gray.*)

402. PHLOX.

Page 328.

(1510.) **P. divaricata,** Linn. Point Richardson, near Quebec. (*St. Cyr.*)

(1511.) **P. subulata,** Linn. Sandy soil near Lake Erie, Charlotteville Township, Norfolk Co., Ont. (*Burgess.*)

404. GILIA.

Page 330.

(1526.) **G. inteftexta,** Steud. Cedar Hill, near Victoria, Vancouver Island. (*Fletcher.*)

405. POLEMONIUM.

(1533.) **P. cæruleum,** Linn. Grassy swamp, between Elbow and Jumping Pound rivers, Rocky Mountain foot-hills. (*Dawson.*)

406. HYDROPHYLLUM.

(1536.) **H. Virginicum,** Linn. Island of Orleans, Q. (*St. Cyr.*)

409. PHACELIA.

Page 333.

(1541.) **P. circinata,** Jacq. f. Elk River valley, B.C. (*Dawson.*)

(1542.) **P. sericea,** Gray. Abundant on the upper slopes of the mountains at the Kananaskis, Canmore and Silver City, Bow River valley, Rocky Mountains. (*Macoun.*)

Var. **Lyallii,** Gray. On the slopes of the Mount Carroll, Bear Creek, and other mountains at the Selkirk summit, B.C. (*Macoun.*)

413. CYNOGLOSSUM.

Page 335.

(1550.) **C. Virginicum,** Linn. Woods, along the shore, Island of Orleans, Q. (*St. Cyr.*)

(2195.) **C. occidentale,** Gray. Specimens collected, July, 1885, on the dry slopes of the Columbia valley at Donald, are referred to this species, but Dr. Gray, in the absence of fruiting specimens, is still in doubt whether they may not rather be placed with *C. Virginicum.*

414. ECHINOSPERMUM.

(1553.) **E. floribundum,** Lehm. Abundant in grassy places at Kananaskis station, and westward to Canmore, Rocky Mountains. (*Macoun.*) Calgary, N.W.T. (*St. Cyr Herb.*) Along Fraser River above Yale, B.C. (*Fletcher.*)

(2196.) **E. diffusum,** Lehm. (Not of p. 189 of Synop. Fl.)

E. deflexum, Lehm. Part I., in part.

Northern Montana and British Columbia. (*Gray.*) Dr. Dawson's

specimens from the Kootanie Pass, Rocky Mountains, under *E. deflexum*, evidently belong here. Mountain slopes at Kicking Horse Lake, Rocky Mountains. (*Macoun.*)

Page 336.

(1555.) **E. Virginicum,** Lehm. Specimens collected in New Brunswick, at Eel River, and referred to *E. Lappula*, belong here, 1885. (*Fowler's Cat.*) Carleton, St. John Co., N.B. (*Hay.*)

(1556.) **E.** LAPPULA, Lehm. In waste places around the citadel at Quebec. (*St. Cyr.*) Introduced along the Canadian Pacific railway at Morley and Silver City, Rocky Mountains. (*Macoun.*)

(1557.) **E. Redowskii,** Lehm. Var. **occidentale,** Watson. Not uncommon at Silver City, Rocky Mountains. Evidently introduced from the prairie. (*Macoun.*) In the vicinity of Victoria, Vancouver Island. (*Fletcher.*)

(2197.) **E. brachycentrum,** Ledeb. Var. **brachystylum,** Gray. Dry soil, Spence's Bridge, B.C., 1885. (*Fletcher.*) Dr. Gray, who named this, indicates that it is new to North America.

415. ERITRICHIUM.

Page 337.

(1561.) For **E. Chorisianum,** A. DC., read **E. Torreyi,** Gray. On dry ground at Lytton, B.C., 1885. (*Fletcher.*)

(1562.) For **E. fulvum,** A. DC., read **E. Scouleri,** A. DC. Fine specimens collected in 1885 and determined by Dr. Gray.

(1563.) **E. tenellum,** Gray. Vicinity of Victoria, Vancouver Island. (*Fletcher.*)

(2198.) **E. circumscissum,** Gray.

Lithospermum circumscissum, Hook. & Arn. Bot. Beech. 370.

Through the dry region to the borders of British Columbia. (*Gray.*)

416. AMSINCKIA.

Page 338.

(1568.) **A. intermedia,** Fisch. & Meyer. Cedar Hill, near Victoria, Vancouver Island. (*Fletcher.*)

(1569.) **A. lycopsoides,** Lehm. Var. **bracteosa,** Gray. Mary Island, Gulf of Georgia, B.C. (*Dawson.*)

418. MYOSOTIS.

Page 340.

(1578.) **M. sylvatica,** Hoffm. Var. **alpestris,** Koch. Very abundant on the upper slopes of Canmore, Copper and Castle Mountains, Bow River Pass, Rocky Mountains. (*Macoun.*)

Page 341.

(1580.) **M. verna,** Nutt. Var. **macrosperma,** Chapm. Not uncommon at Cedar Hill and other places around Victoria, Vancouver Island. (*Fletcher.*)

(2199.) **M.** VERSICOLOR, Pers. In low ground at Cedar Hill, near Victoria and at Esquimalt, Vancouver Island. (*Fletcher.*)

419. LITHOSPERMUM.

(1582.) **L.** OFFICINALE, Linn. Waste places in Quebec City around the citadel. (*St. Cyr.*)

(1584.) **L. pilosum,** Nutt. Common on open stony prairies, about Morley and westward to "The Gap," Bow River valley, Rocky Mountains. (*Macoun.*)

Page 342.

(1587.) **L. angustifolium,** Michx. Common around Morley and westward, but not *in* the Rocky Mountains; also in the Columbia valley at Donald, B.C. (*Macoun.*)

420. ONOSMODIUM.

Page 343.

(1589.) **O. Virginianum,** DC. Dr. Burgess points out that the London specimens so named in Part II. are probably *O. Carolinianum.*

426. CONVOLVULUS.

Page 345.

(1596.) **C. Soldanella,** Linn. On sandy shore of Savary Island, Gulf of Georgia, B.C., 1885. (*Dawson.*)

(1598.) **C. sepium,** Linn. Turtle Mountain, N.W.T. (*Burgess.*) Regina, N.W.T. (*N. H. Cowdry.*) Dr. Dawson's specimens referred to var. *repens* belong here. Island of Orleans, near Quebec. (*St. Cyr.*)

427. CUSCUTA.

Page 347.

(1602.) **C. salina,** Engelm. Hernando Island, Gulf of Georgia, B.C. (*Dawson.*)

439. COLLINSIA.

Page 353.

(1635.) **C. parviflora,** Dougl. On the mountain slopes at Spence's Bridge, B.C. (*Fletcher.*)

442. PENTSTEMON.

Page 354.

(1639.) **P. Menziesii,** Hook. On the summits of the higher mountains at Canmore, Silver City and about Kicking Horse Lake, Rocky Mountains. (*Macoun.*)

Page 355.

(1641.) **P. acuminatus,** Dougl. Abundant on the dry gravelly banks of the Bow River, near Morley, Rocky Mountains. (*Macoun.*)

(1642.) For **P. cristatus,** Nutt., read **P. albidus,** Nutt., and take out the synonym, *P. crianthera*, Pursh. Fl. II, 737.

(1644.) **P. confertus,** Dougl. Extremely abundant from Canmore to Laggan, but found as far east as Kananaskis station, Bow River valley, Rocky Mountains. (*Macoun.*)

Var. **cæruleo-purpureus,** Gray. Rather common around Morley, and Kananaskis station, but not westward, in the Bow River valley, Rocky Mountains. (*Macoun.*) Spence's Bridge, B.C. (*Fletcher.*)

Page 357.

(1650.) For **P. venustus,** Dougl., read **P. Lyallii,** Gray, as to Dawson's specimens. For Macoun's, read *P. Menziesii.* On the borders of British Columbia, Lyall., 1861. (*Gray.*)

443. MIMULUS.

(1653.) **M. Lewisii,** Pursh. Abundant especially along mountain torrents, in the valleys of the Selkirk Mountains, B.C. (*Macoun.*) Pitt Meadows, B.C. (*A. J. Hill.*)

(1655.) For **M. Jamesii,** Torr. & Gray, read **M. glabratus,** HBK. Var **Jamesii,** Gray. Supplement, Synop. Fl. 447. Thornhill, York Co., Ont. (*St. Cyr.*)

Page 358.

(1656.) **M. luteus,** Linn. Dr. Gray, in his supplement, seems to make the typical form of this species to belong exclusively to the coast. Following out this view we place all our Rocky Mountain specimens under the variety.

Var. **alpinus,** Gray. Abundant in some stream valleys, but more particularly about mountain springs and cascades in the narrow valleys of the Selkirk Mountains, B.C. (*Macoun.*)

(2200.) **M. nasutus,** Greene. This species has been confounded with *M. luteus* in our collections as a depauperate form of that species, but it is easily separated by its usually laciniate leaves and being purely annual. At Victoria, Vancouver Island, it flowers very early and dies away, the seeds germinate during the autumn rains, and the young plants are ready to flower in April. Gathered by all collectors. Dr. Gray, in his supplement, gives its range to British Columbia.

(2201.) **M. floribundus,** Dougl. Occasionally found on overflowed places along Beaver Creek in the Selkirk Mountains, B.C. (*Macoun.*)

(1658.) **M. moschatus,** Dougl. Junction of the Quebec and St. John Railway, Q. (*St. Cyr.*) Possibly a garden *escape.*

449. VERONICA.

Page 361.

(1674.) **V. alpina,** Linn. Port Burwell, Cape Chudleigh, Hudson Strait. (*R. Bell.*) Abundant in mountain meadows and along brooks, from Silver City westward in the Bow River valley, Rocky Mountains, also common at the Selkirk summit, B.C. (*Macoun.*)

450. GERARDIA.

Page 364.

(1685.) **G. tenuifolia,** Vahl. The Lonely Lake specimens referred to this species, belong to the variety added below.

Var. **asperula,** Gray, Supplement, Syn. Fl. 452. Stony Mountain, Man. (*J. M. Macoun.*) It is probable that this form is Douglas's plant and has been confounded with the *G. aspera* of the south, which is quite distinct from the Manitoba plant. The locality may be the same with that from which Douglas obtained his specimens.

451. CASTILLEIA.

Page 365.

(1688.) **C. miniata,** Dougl. Very common in thickets and tall grass, from Morley westward in the Bow River valley and across the mountains to the summit of the Selkirks. (*Macoun.*) Vicinity of Victoria, Vancouver Island. (*Fletcher.*) Sooke, Vancouver Island. (*Dawson.*)

(1689.) **C. pallida,** Kunth. Var. **septentrionalis,** Gray. Ford's Harbor and Nachvak, coast of Labrador; also Fort Churchill, Hudson Bay. (*R. Bell.*) Not uncommon in the Bow River valley westward to Kicking Horse Lake, Rocky Mountains. (*Macoun.*)

454. BARTSIA.

Page 367.

(1697.) **B. alpina,** Linn. Nachvak, coast of Labrador. (*R. Bell.*)

455. PEDICULARIS.

Page 368.

(1702.) **P. Grœnlandica,** Retz. Nachvak, coast of Labrador, and Fort Churchill, Hudson Bay. (*R. Bell.*) Abundant in marshy meadows and along brooks, from Morley westward in the Bow River valley to Kicking Horse Lake, Rocky Mountains. (*Macoun.*)

(1703.) **P. racemosa,** Dougl. On the higher slopes of the Rocky Mountains at Kicking Horse Lake; also on the Selkirk Mountains, Lat. 51°, B.C. (*Macoun.*)

(1704.) **P. Lapponica,** Linn. Nachvak, coast of Labrador, and Stupart's Bay, Cape Prince of Wales, Hudson Strait. (*R. Bell.*)

(1706.) **P. euphrasioides,** Stephan. Ford's Harbor, coast of Labrador. (*R. Bell.*)

Page 369.

(1707.) **P. palustris,** Linn. Var. **Wlassoviana,** Bunge. In wet places along the north side of the Island of Orleans, near Quebec. (*St. Cyr.*)

(1708.) **P. Canadensis,** Linn. Quebec. (*St. Cyr.*)

(1710.) **P. lanceolata,** Michx. Wet gravelly river-flat, Saugeen, Bruce Co., Ont. (*Burgess.*)

(1711.) **P. bracteosa,** Benth. Rather common in thickets along the lower slopes, from Kananaskis through the Rocky Mountains to the summit of the Selkirks, B.C. (*Macoun.*)

Page 370.

(1714.) **P. hirsuta,** Linn. Ford's Harbor, coast of Labrador, Cape Chudleigh, Cape Prince of Wales, Upper Savage Islands, Nottingham Island and Digges Island, Hudson Strait. (*R. Bell.*)

(1715.) **P. flammea,** Linn. Ford's Harbor and Nachvak, coast of Labrador; also Cape Chudleigh, Digges and Mansfield Islands, and the Eskimo Village of Hyla, Hudson Strait. (*R. Bell.*)

(2202.) **P. contorta,** Benth. Abundant on the north slope of Castle Mountain, at an altitude of 7,000 feet, Bow River valley, Rocky Mountains, 1885. (*Macoun.*)

456. RHINANTHUS.

Page 371.

(1718.) **R. Crista-galli,** Linn. Neighborhood of Quebec. (*St. Cyr.*) Grassy slopes along the Bow River valley at Kananaskis station, Rocky Mountains. (*Macoun.*) Cedar Hill, near Victoria, Vancouver Island. (*Fletcher.*)

460. BOSCHNIAKIA.

Page 374.

(1727.) **B. Hookeri,** Walp. Mount Finlayson, near Victoria, Vancouver Island. (*Fletcher.*) The specimens agree fully with Hooker's figure and description.

462. UTRICULARIA.

Page 374.

(1734.) **U. intermedia,** Hayne. In sandy pools and wet marshy spots along the Bow River at Silver City, Rocky Mountains; also in marshes along Beaver Creek, Selkirk Mountains. (*Macoun.*)

463. PINGUICULA.

Page 376.

(1739.) **P. vulgaris,** Linn. Nachvak, coast of Labrador. (*R. Bell.*) Abundant around Kananaskis station and westward to Donald in the Columbia valley. Chiefly along the immediate banks of rivers. (*Macoun.*)

467. PHRYMA.

Page 378.
(1744.) **P. Leptostachya,** Linn. Ste. Anne's, Q. (*St. Cyr.*)

468. VERBENA.

Page 379.
(1748.) **V. bracteosa,** Michx. Kamloops Lake, BC. (*Fletcher.*)

470. TEUCRIUM.

Page 380.
(2203.) **T. occidentale,** Gray. Specimens referred to this species by Dr. Gray were collected on the left bank of the River Moira a little above the railway bridge, at Belleville, Ont. (*Macoun.*)

476. PYCNANTHEMUM.

Page 383.
(2204.) **P. linifolium,** Pursh. In low wet meadows, Point Edward, River St. Clair, Ont., 1884. (*J. M. Macoun.*)

(2205.) **P. muticum,** Pers. Var. **pilosum,** Gray. Rondeau Kent Co., Lake Erie, Ont. (*J. A. Balkwell.*)

481. CALAMINTHA.

Page 384.
(1769.) **C. Nuttallii,** Benth. Wet gravelly river-flat, London, Ont. (*Burgess.*)

489. SCUTELLARIA.

Page 388.
(1787.) **S. parvula,** Michx. Wet rocky places, Island of Orleans, near Quebec. (*St. Cyr.*)

497. PLANTAGO.

Page 392.
(1805.) **P. Rugelii,** Decaisne Damp places, Island of Orleans, Q. (*St. Cyr.*)

Page 393.

(1809.) **P. maritima,** Linn. Nachvak, coast of Labrador; Nottingham Island, Hudson Strait; and Fort Churchill, Hudson Bay. (*R. Bell.*) Island of Orleans, and on the Mingan Islands, Q. (*St. Cyr.*) Hernando Island, Gulf of Georgia, B.C. (*Dawson.*)

(1810.) **P. lanceolata,** Linn. Mr. James Fletcher collected two forms of this species in the neighborhood of Victoria, Vancouver Island, one with white anthers quite common, the other with yellowish-green ones much less so.

498. LITTORELLA.

Page 394.

(1815.) **L. lacustris,** Linn. In Lake Utopia, St. George, N.B. (*Vroom.*)

END OF VOL. I.

Note.

For Genus Number 584 *see* page 535.
For Species Numbers 2206 and 2207 *see* page 535.

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GEOLOGICAL AND NATURAL HISTORY SOCIETY OF CANADA.
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CATALOGUE

OF

CANADIAN PLANTS.

PART IV.—ENDOGENS.

BY

JOHN MACOUN, M.A., F.L.S., F.R.S.C.,
Naturalist to the Geological and Natural History Survey of Canada.

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PREFACE.

PART IV.

The first volume of this Catalogue of Canadian Plants consists of three parts separately published and bearing date 1883, 1884 and 1886 respectively. Part I. includes the Polypetalæ, Part II. the Gamopetalæ, Part III. the Apetalæ and Gymnosperms. Part IV., now issued, is devoted to the Endogens, and forms the first portion of Volume II. of the Catalogue. Part V. will include the ferns and their allies with the mosses and liverworts, and it is intended in Part VI. to catalogue the lichens, fungi and seaweeds.

Over 2,000 species of named cryptogamous plants, to be catalogued in Parts V. and VI., are now in the herbarium, and it is probable that the number will be raised to 2,500 before these parts are published, so that the entire work will enumerate about 5,500 species of plants (indigenous and introduced) found growing without cultivation within the limits of Canada.

Since the publication of Part III. extensive collections have been made by James M. Macoun on the shores and islands of James Bay. Dr. G. M. Dawson has made valuable and interesting notes and collections in that part of the North-West Territories bordering on Alaska. The writer spent five months collecting on VancouverIsland and gathered much valuable information regarding its flora. That part of this additional information which is applicable to the Endogens is included in the present issue.

In accordance with the plan adopted at the commencement of the work, I have placed myself in communication with specialists in the various orders and have had their assistance in the determining and verifying of critical or new species.

As on former occasions, Dr. Sereno Watson has rendered valuable assistance, especially in the Liliaceæ and Juncaceæ. In the Naiadaceæ I have had very much help from Mr. Arthur Bennett, F.L.S., Croydon, England, and from Rev. Thomas Morong, Ashland, Mass. These gentlemen, by examination and comparison of authentic

specimens, have enabled me to give a very satisfactory account of our River-weeds. W. H. Beeby, A.L.S., London, England, and Mr. Morong have contributed critical notes on the Sparganias of Canada, Mr. Beeby having sent my specimens to Norway in order that our northern forms might be compared with Scandinavian types.

The genus Carex, as was to be expected, gave rise to many perplexing questions. Besides availing myself of Prof. L. H. Bailey's monograph of the genus, I sent him many specimens of critical species, and have embodied in the text his remarks and occasionally his descriptions of new species and varieties. While not agreeing with him in every particular, his determinations have generally been accepted as conclusive. Mr. Bennet has rendered invaluable assistance, and besides comparing my specimens with those in his own herbarium has transmitted them to Kew and to Scandinavian specialists for comparison with the types. From his remarks it is quite evident that the correct nomenclature of our northern carices is not yet settled.

To the veteran botanist, Dr. Vasey, of the Agricultural Department at Washington, I am deeply indebted. For many years he has examined critical species and confirmed my determinations of the Graminese from all parts of Canada. All the species in this order are named in accordance with his catalogues, and in every case his decision has been taken as final.

In arranging the orders and genera I have followed Bentham & Hooker's *Genera Plantarum*, and the authority for the genus, as given by them, I have accepted. The preparation of this portion of the Catalogue has entailed much labour, on my part, and though conscious that the results accomplished are far from perfect, I would ask the indulgent criticisms of botanists who can well appreciate the difficulties of the work.

JOHN MACOUN.

OTTAWA, June, 1888.

ENDOGENS.

CII. HYDROCHARIDACEÆ. Frog's-Bit Family.

585. ELODEA, Michx. Fl. I., 20. (WATER-WEED.)

(2208.) **E. Canadense,** Planchon. Michx. Fl. I., 20.

Udora Canadensis, Nutt. Gen. II., 242.
U. verticillata, Spreng. Hook. Fl. II., 193.
Anacharis Canadensis, Planchon. Gray, Man. Ed. V. 495. Macoun, Cat., No. 1756.
Serpicula occidentalis, Pursh. Fl. I., 33.

Very abundant in still waters of rivers, and in lakes and ponds throughout Quebec and Ontario. Although it makes a luxuriant growth in summer, it never chokes Canadian streams, as the frosts of winter destroy it. (*Macoun.*) Souris River, Assiniboia. (*J. M. Macoun.*) Canada to the Saskatchewan. (*Hooker, Fl.*)

586. VALLISNERIA, Linn. Gen. 1097. (EEL-GRASS.)

(2209.) **V. spiralis,** Linn. Hook. Fl., II., 192.

V. Americana, Michx. Fl. II., 220. Pursh, Fl. II., 602.

Not uncommon in slow-flowing rivers and shallow borders of lakes. Its range is rather wider than the last, but it is not so plentiful. In shallow water, St. Stephen, N.B. (*Fowler, Cat.*) Near Prince's Lodge, Halifax. (*Lawson.*) In a small lake near North Sydney, Cape Breton Island. (*Macoun.*) St. Lawrence River, near Point St. Charles, Montreal, 1821. (*Dr. Holmes.*) Common at Ottawa. (*Fletcher, Fl. Ott.*) St. Lawrence, and everywhere common in streams inland and north-

ward from Prescott and Brockville. (*Billings.*) Common in the Bay of Quinte, and in all the streams and lakes discharging into it; Scugog River, at Lindsay, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*) Kingston, Ont. (*Burgess.*) North shore of Lake Superior. (*Agassiz.*) Gore Bay, Vermont Harbor, Manitoulin Islands. (*J. Bell.*)

CIII. ORCHIDACEÆ. (ORCHID FAMILY.)

587. MICROSTYLIS, Nutt. Gen. II., 196.

(2210.) **M. monophyllos,** Lindl. Gen. Orch. 19. Hook. Fl. II., 193.

M. brachypoda, Gray. Ann. Lyc., New York, III., 228.
Tipularia discolor, Beck, Bot. 350.

Occasional in rather damp, shady woods, but nowhere common. Little Rocher, N. B. (*Fowler's Cat.*) Halifax, and Bedford, N. S. (*Lawson & Sommers.*) South West Point, Anticosti; along high cliffs, Gaspé coast, near Ste. Anne des Monts. (*Macoun.*) Near Montreal. (*Goldie.*) Mer Bleue, Ont., and Hull, Q., near Ottawa. (*Fletcher, Fl. Ott.*) In rich woods, not common at Rivière du Loup, Q. (*Thomas.*) Cacouna, River St. Lawrence, Q.; also in Peter's Swamp, London, Ont. (*Burgess.*) In swampy thickets near Castleton, cedar swamp, near Wooler, and two miles south of Picton, Ont.; in wet woods along Lake Winnipegoosis, Man. (*Macoun.*)

(2211.) **M. ophioglossoides,** Nutt. Gen. II. 196. Hook. Fl. II. 193.

Malaxis unifolia, Michx., Fl. II., 157.
M. ophioglossoides, Pursh, Fl. II., 592.

Newfoundland. (*Dr. Morrison.*) In several places in Kent Co., N.B., at Fredericton, Eel River and Grand Lake. (*Fowler, Cat.*) Near Bedford and at Halifax, N.S. (*Lawson & Sommers.*) Very abundant in wet meadows at Louisburg, and at North Sydney, Cape Breton Island; River de Brig, Anticosti. (*Macoun.*) Dry hills, Huckleberry Rapids, Rivière Rouge, Q. (*D'Urban.*) Dow's Swamp and other places near Ottawa. (*Fletcher, Fl. Ott.*) Sandy soil near Castleton and Belleville Ont.; shady woods along Lake Winnipegoosis, Man. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*) Canada to the Saskatchewan. (*Hooker, Fl.*)

(2212.) **M. diphyllos,** Lindl., Gen. Orch. 19. Hook. Fl. II., 193.

Ounalashka. (*Rothr. Alask.*)

588. LIPARIS, Richard. (TWAYBLADE.)

(2213.) **L. Lœselii,** Richard. Hook. Fl. II., 194.

Malaxis liliifolia, Richard. Pursh, Fl. II., 592 in part.

In wet springy places, or on hummocks in swamps; local but not rare. In a boggy meadow near Annapolis, N.S. (*Macoun & Burgess.*) Bog, Dalhousie, N.B. (*Chalmers.*) Harris Cove, Lily Lake, St. Stephen, Fredericton, Grand Lake, Kennebeccasis and Eel rivers, N.B. (*Fowler, Cat.*) Savanne, near Montreal, 1821. (*Dr. Holmes.*) In rich woods, not common at Rivière du Loup, Q. (*Thomas.*) Dow's Swamp, swamp east of Beechwood, and other localities at Ottawa, not uncommon. (*Fletcher, Fl. Ott.*) Wet swamp east of Belleville, and on logs in a pond, Oak Hills, Hastings Co.; also on logs in a swamp near Campbellford, Northumberland Co., Ont. (*Macoun.*) Peat bogs near London, Ont. (*Burgess.*) Canada to Carleton House Fort, Saskatchewan. (*Hooker, Fl.*)

589. CALYPSO, Salisb. (CALYPSO.)

(2214.) **C. borealis,** Salisb. Hook. Fl. II., 195. Pursh Fl. II., 593.

On moss in deep, shady woods, from the Atlantic to the Pacific. Nova Scotia. (*Menzies.*) Rather common in shady woods, having been detected by many collectors in N.B. (*Fowler's Cat.*) Dalhousie, N.B. (*Chalmers.*) Jupiter River, Anticosti; cool woods, Gaspé Basin. (*Macoun.*) Along the River Ste. Anne des Monts, Q. (*Porter.*) Common in rich woods at Rivière du Loup, Q. (*Thomas.*) Vicinity of Montreal, 1822. (*Dr. Holmes.*) Rather rare, vicinity of Ottawa. (*Fetcher, Fl. Ott.*) At Belleville in dry cedar swamps, and numerous other places in central Ontario; also woods on Pie Island, Lake Superior, and around Lake Nipigon. (*Macoun.*) Shore of Lake Medad, near Hamilton, Ont. (*Logie.*) Mossy bogs, Owen Sound, Ont. (*Burgess.*) Lake Mistassini, N.E.T., to the northern end of Lake Winnipeg; very local. (*J. M. Macoun.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) Extremely rare in the Rocky Mountains, only noticed at Donald,

Columbia Valley; abundant in all shady woods in British Columbia and Vancouver Island. (*Macoun.*) Dean or Salmon River, B.C. Cassar Trail, 36 miles west of Dease Lake, B.C. (*Dawson.*) Sitka. (*Rothr. Alask.*) Canada to Bear Lake River; also from Hudson Bay to the Rocky Mountains. (*Hooker, Fl.*)

590. APLECTRUM, Nutt. Gen. II., 197. (PUTTY-ROOT.)

(2215.) **A. hyemale,** Nutt. Hook. Fl. II., 194.

Cymbidium hyemale, Pursh, Fl., II., 593.
Corallorhiza hiemalis, Nutt., Journ. Acad. Phil. III., 139.

Rather rare in rich woods. Beechwood, near Ottawa. (*Lt. Col. Wm. White.*) Miriwin's woods, near Prescott, Ont. (*Billings.*) Wm. Anderson's woods, Prince Edward Co., woods near Belleville, Hastings Co., and in Simon Terrill's woods, Brighton, Northumberland Co., Ont. (*Macoun.*) Rich woods, not common near London, Ont. (*Burgess.*) Mandannin, Lambton Co., Ont. (*J. Morrison, Jr.*). Between Norway House and Cumberland House, on the Saskatchewan River. (*Hooker Fl.*)

591. CORALLORHIZA, R. Br. (CORAL-ROOT.)

(2216.) **C. innata,** R. Br. Hook. Fl. II., 194.

C. verna, Nutt. Journ. Acad. Phil. III., 136.

Rather rare, but widely distributed, being found in deep cool woods from the Atlantic to the Pacific. Newfoundland. (*Miss Brenton.*) New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Windsor, Pictou, Truro, Strait of Canso, Guysboro Co., N. S. (*Sommers, Cat.*) North Woods, Annapolis, N.S. (*Macoun & Burgess.*) Black River, in Northumberland Co., Carleton and Andover, N.B. (*Fowler, Cat.*) Rich woods, Rivière du Loup, Q. (*Thomas.*) Table Top Mountain, Gaspé, Q. (*Porter.*) Savanne, near Montreal, 1821. (*Dr. Holmes.*) Dow's and other swamps near Ottawa. (*Fletcher Fl. Ott.*) Woods west of Prescott Junction, Ont. (*Billings.*) Prince's Island, Hamilton, Ont. (*Logie.*) Big Swamp, Murray, and at Castleton, Northumberland Co.; woods at Kakabeka Falls and on Pie Island, Lake Superior, also at Lake Nipigon, Ont., and at Manitoba House, Lake Manitoba, Man. (*Macoun.*) Lake Mistassini, N.E.T.; Beren's River, Man., and Missinaibi River,

Ont. (*J. M. Macoun.*) In swamps at the Kananaskis, close to Bow River, Rocky Mountains; Telegraph Trail, B.C.; slope of Mount Arrowsmith, Vancouver Island, alt. 3,500 feet. (*Macoun.*) Dean or Salmon River, B.C. Upper Liard River, lat. 61°, N.WT. (*Dawson.*) Kotzbue Sound and Ounalaska. (*Rothr. Alask.*) Lake Huron; throughout Canada to the Saskatchewan River. (*Hooker, Fl.*) Greenland. (*Lange.*)

(2217.) **C. odontorhiza,** Nutt. Journ. Acad. Phil. III. 137.

C. Wisteriana, Conrad. Journ. Acad. Phil. VI., 145.
Cymbidium Odontorhizon, Pursh, Fl. II., 593.
Ophrys corallorhiza, Michx., Fl. II., 158.

The occurrence of this plant in any part of Canada, except in south-western Ontario, is still a matter of doubt, as all the specimens hitherto supposed to be this species, except from that district, have proved to be *C. innata.* Three-mile House woods, near Halifax, N.S. (*Sommers.*) Woods along Lake Erie, Norfolk Co., Ont. (*Dr. Nichol.*) Papineau woods, near Montreal, 1822. (*Dr. Holmes.*) Vicinity of Hamilton, Ont. (*Buchan.*)

2218. **C. multiflora,** Nutt. Journ. Acad. Phil. III., 138. Hook. Fl. II., 194.

C. innata, Nutt. Gen. II., 194.

Rich, shady woods, extending from the Atlantic to the Pacific. New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Halifax, N.S. (*Sommers.*) North Woods, near Annapolis, N.S. (*Macoun & Burgess.*) Campbellton, N. B. (*Chalmers.*) Rather common in Kent Co., also at St. John, N.B. (*Fowler, Cat.*) Rich woods, Rivière du Loup, Q. (*Thomas.*) Beechwood and other places near Ottawa. (*Fletcher, Fl. Ott.*) Vicinity of Hamilton, Ont. (*Buchan.*) Woods, common at Prescott, Ont. (*Billings.*) Under evergreens in woods at Castleton, Seymour, Brighton, Picton, and Belleville, also at Owen Sound, the Pic and Nipigon rivers, and along the east shore of Lake Nipigon, Ont. (*Macoun.*) Woods, not common, London, Ont. (*Burgess.*) Owen Sound and Cockburn Islands, Georgian Bay. (*J. Bell.*) North shore of Lake Superior. (*Agassiz.*) On mountain slopes among hemlock, at Six Mile Creek, in the Selkirk Mountains, B.C. (*Macoun.*) Mountain slopes Crow Nest Pass, Rocky Mountains. (*Dawson.*) Woods near Cedar Hill, Vancouver Island. (*Fletcher.*) On the flanks of Mount Finlayson, also in woods at Nanaimo and Qualicum, Vancouver Island. (*Macoun.*) Flowering in May while *Mertensiana* is only in full flower in July.

(2219.) **C. Mertensiana,** Bong. Veg. Sitcha, 47; Hook. Fl. II., 194.

Coniferous woods west of the Rocky Mountains; Telegraph Trail, B.C.; woods around Mount Finlayson, and very abundant on the flanks of Mounts Arrowsmith and Mark, and on the portage from Qualicum to Alberni, Vancouver Island. (*Macoun.*) Vicinity of Victoria, B.C. (*Fletcher.*) Salmon River, B.C.; also Queen Charlotte Islands. (*Dawson.*) Sitka. (*Rothr. Alask.*)

(2220.) **C. striata,** Lindl. Orch. 534.

C. Macraei, Gray. Man. Ed. V., 510, Macoun's Cat., No. 1799.

Very local and very rare, though it has a wide range. Caledonia Springs, Ont. (*Macrae.*) Beechwood, Ottawa. (*Fletcher, Fl. Ott.*) Renfrew, Ont. (*Rev. C. J. Young.*) Rocky woods along North River, about four miles above Round Lake, Peterboro Co., Ont., also on the top of the high bank below the C.P.R. bridge, Nipigon River. (*Macoun.*) Woods, London, very rare, and at Parry Sound, Ont. (*Burgess.*) North shore of Lake Superior. (*Agassiz.*) Sooke, Vancouver Island. (*Fletcher.*) In a swamp at the Kananaskis, Bow River Pass and at the summit of the Selkirk Mountains, B.C. Not uncommon at Oak Bay and in woods around Cedar Hill, Vancouver Island. (*Macoun.*)

592. LISTERA, R. Br. (TWAYBLADE.)

(2221.) **L. cordata,** R. Br. Hook. Fl. II., 204.

Ophrys cordata, Michx. Fl. II., 158.

Not uncommon in cool woods from the Atlantic to the Pacific. Newfoundland and Labrador. (*Dr. Morrison.*) Pictou, N.S., and Cape Breton Island. (*McKay.*) Truro, N.S. (*Lyndsay.*) North Mountain near Annapolis, and Pirate's Cove, Gut of Canso, N.S.; also woods North Sydney, Cape Breton Island. (*Macoun & Burgess.*) Kouchibouguac and Dorchester, N.B. (*Fowler, Cat.*) Bald Mountain, Tobique River, N.B (*Hay.*) Portland, N.B. (*Matthews.*) Ste. Anne des Monts River, Gaspé, Q. (*Porter.*) Rich woods, Rivière du Loup, Q. (*Thomas.*) Swamp at the foot of the Oak Hills, Hastings Co., also in a swamp near Owen Sound, Ont.; very abundant in woods north of Otter Head, and at Current River, Lake Superior; One-mile portage Nipigon River, and Logan's Island, Lake Nipigon. (*Macoun.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Common in mountain woods from Silver City through the mountains to the coast, and common everywhere in

cool woods on Vancouver Island. (*Macoun.*) Salmon River, and Iltasyouco River, B.C. (*Dawson.*) Ounalaska. (*Rothr. Alask.*) Lake Winnipeg to the Saskatchewan, and from the Straits of De Fuca to Alaska. (*Hooker, Fl.*) Greenland. (*Lange.*)

(2222.) **L. convallarioides,** Nutt. Hook. Fl. II., 204.

L. Eschscholziana, Cham. Linnæa III., 33.
Epipactis convallarioides, Pursh, Fl. II., 591.

Not very common but extending from the Atlantic to the Pacific through the cool forest region. Dalhousie, N. S. (*McKay.*) North Mountain, near Annapolis, N.S., and in damp woods at Whycocomagh, Cape Breton Island. (*Macoun & Burgess.*) On the brink of a densely shaded brook, near the Manse, Bass River, Upper St. John and Madawaska rivers, also near Campellton, N.B. (*Fowler, Cat.*) Dalhousie, N.B. (*Chalmers.*) Nashwaaksis, N.B. (*Vroom.*) Woods along the Gaspé coast and in woods up the Ste. Anne des Monts River, Gaspé, Q. (*Macoun. Porter.*) Rich woods, Rivière du Loup, Q. (*Thomas.*) Hilton, near Owen Sound, and Cockburn Harbor, Georgian Bay. (*J. Bell.*) Opposite Grand Island, Lake Superior. (*R. Bell.*) Shore of Lake Huron, near Wiarton, woods near Current River, along the north-east coast, and on Pie Island, Lake Superior; in wet woods along Lake Winnipegoosis, Man. (*Macoun.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Oxford House, Keewatin. (*R. Bell.*) Common in the Rocky Mountains, from the Kananaskis to Donald on the Columbia; abundant on the mountains on Vancouver Island and at Cameron and Horne Lakes. (*Macoun.*) Ounalaska. (*Rothr. Alask.*) Near Quebec and Lake Huron; also in shady woods in mountain swamps at the base of the Rocky Mountains; on the north-west coast at Clarence Straits and Ounalaska. (*Hooker, Fl.*)

593. SPIRANTHES, Richard. (LADIES TRESSES.)

(2223.) **S. latifolia,** Torr. Gray, Man. Ed. V., 504.

S. plantaginea, Torr. Fl. N. York, II., 284.

Occasionally in damp, grassy places. Titusville, Andover, North Mountain, Tobique and Eel rivers, N.B. (*Fowler, Cat.*) Windsor, N.S. (*Howe.*) Halifax, N.S. (*Sommers.*) In a marshy meadow at Belleville; rich, moist woods at Niagara Falls, Ont. (*Macoun.*) Gravelly river flat, London; Southampton, Ont. (*Burgess.*)

(2224.) **S. Romanzoviana,** Chamisso.

S. cernua, Rich. Hook. Fl. II., 202 in part.

Not uncommon on wet sand or in bogs, along rivers and lakes from the Atlantic to the Pacific. Brigus, Newfoundland. (*R. Bell.*) New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Pictou, Truro and Sandpoint, N.S.; Whycocomagh, Cape Breton. (*Sommers, Cat.*) Siscomb River, Guysboro Co., N.S. (*Faribault.*) Magdalen Islands. (*Richardson.*) Kouchibouguac, Richibucto, Campbellton, King's and St. John's Co's., N.B. (*Fowler, Cat.*) South West Point, Anticosti; Big Swamp, Murray, shore of Lake Ontario at Presqu'ile Point, also shore of Lake Huron at Red Bay, Ont. (*Macoun.*) Sault Ste. Marie. (*Mrs. Saunders.*) Lake Mistassini, N.E.T., and on Charlton Island, James Bay. (*J. M. Macoun.*) God's Lake, N. E. of Lake Winnipeg (*R. Bell.*) Bow River valley at Calgary, and rather common in sand along the Bow River at Silver City, Rocky Mountains; also in Beaver Creek valley, at Six Mile Creek, Selkirk Mountains; common at Cedar Hill, near Victoria, and at Horne Lake and Alberni, Vancouver Island. (*Macoun.*) New Westminster, B.C. (*Fletcher.*) Queen Charlotte Islands. (*Dawson.*) Ounalaska. (*Rothr. Alask.*) Bartlett Bay, Alaska. (*Meehan.*)

(2225.) **S. cernua,** Richard. Hook. Fl. II., 202, in part.

Neottia cernua, Pursh, Fl. II., 589.
Ophrys cernua, Michx., Fl. II., 158.

The limits of this and the preceding species are not very well defined, and references to this form may in reality belong to the next. Dartmouth and Halifax, N.S. (*Lawson & Sommers.*) Pictou, N.S. (*McKay.*) Wet places, Caledonia, Guysboro Co., N.S. (*Faribault.*) Lobster Bay; Long Point, Mingan, Q. (*St. Cyr.*) In the neighborhood of bogs, Rivière du Loup, Q. (*Thomas.*) Côte St. Paul, near Montreal, 1821. (*Dr. Holmes.*) Lake Flora, Hull, Q. (*Fletcher, Fl. Ott.*) Moist ground west of Prescott, Ont. (*Billings.*) The Dell, Ancaster, near Hamilton, Ont. (*Logie.*) Boggy meadow near the Hop Yard, Belleville, Ont. (*Macoun.*) Peter's Swamp, near London, Ont. (*Burgess. Millman.*) Drummond Island and McLeod's Harbor, Georgian Bay. (*J. Bell.*)

(2226.) **S. gracilis,** Bigelow. Hook. Fl. II., 202.

Open woods and grassy slopes, not uncommon, but local. Windsor, Halifax, Pictou, Truro and at Oyster Ponds, Guysboro Co., N.S. (*Sommers, Cat.*) Abundant along the railway cuttings at Truro, N.S. (*Macoun.*) Roadside, Pictou, N.S. (*Burgess.*) Caledonia, Guysboro

Co., N.S. (*Faribault.*) Baie Verte and Petitcodiac, N.B. (*Fowler, Cat.*) Lobster Bay; Little River, Mingan, Q. (*St. Cyr.*) Aylmer, Q. (*Fletcher, Fl. Ott.*) Rocky woodlands west of Brockville, Ont. (*Billings.*) Sandy soil in woods, valley of the Humber, Toronto. (*Burgess.*) Sandy plains at Castleton, Ont.; also along Lake Huron, at Red Bay, and abundant in swamps along White River, north of Lake Superior, and also at Rainy Lake, Ont. (*Macoun.*) Observation Point, Lake Winnipeg. (*J. M. Macoun.*) From Lake Huron to Fort Franklin, on the Mackenzie River. (*Hooker, Fl.*)

A, R. Br. (RATTLESNAKE-PLANTAIN.)

(2227.) **C. repens,** R. Br. Hook. Fl. II., 203.

Neottia repens, Pursh, Fl. II., 589.
Satyrium repens, Michx., Fl. II., 157, in part.

Rather common in cool mossy woods, from the Atlantic to the Pacific. Pictou, N.S. (*McKay.*) Pirate Cove and Annapolis, N.S. (*Burgess & Macoun.*) Very common throughout the forests of New Brunswick. (*Fowler, Cat.*) St. Mary's River and other points, Anticosti; also woods along the Gaspé coast, Q. (*Macoun.*) Slopes of Mount Albert, Gaspé. (*Porter.*) Vicinity of Quebec and Island of Orleans, Q. (*Thomas.*) Stewarton, near Ottawa, and Eastman's Springs, Ont. (*Fletcher, Fl. Ott.*) Cedar swamps throughout all the northern counties of Ontario and extending westerly to the Lake of the Woods. (*Macoun.*) Blood River, Lake Winnipeg, and abundant between that lake and Lake Mistassini. (*J. M. Macoun.*) Between Pine River and Dunvegan, Peace River. (*Dawson.*) Not uncommon in northern Manitoba and in the foot-hills of the Rocky Mountains, at the Kananaskis. (*Macoun.*) Mountain woods of the Rocky Mountains, and from the Saskatchewan to Fort Franklin. (*Hooker, Fl.*)

(2228.) **C. pubescens,** R. Br. Hook., Fl. II., 204.

Neottia pubescens, Pursh, Fl. II., 590.
Satyrium repens, Michx., Fl. II., 157, in part.

Rather rare. Always prefers dry woods in Ontario. Newfoundland. (*Miss Brenton.*) New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Salmon River, Truro, and Canso, Guysboro Co. (*Sommers, Cat.*) The above references probably belong to the preceding species. (*Macoun.*) Petitcodiac, N.B. (*Fowler, Cat.*) Tobique Lake, N.B. (*Hay.*) Ste. Anne de la Pèrade, Q. (*St. Cyr.*) Gravelly and rich woods, Sey-

mour, Northumberland Co.; Belleville, and near the Oak Hills, Hastings Co., Ont. (*Macoun.*) Sulphur Spring, Ancaster, Ont. (*Logie.*) St. Joseph Island, Gore Bay, and Thompson Point, north of Lake Huron. (*J. Bell.*) Opposite Grand Island, Lake Superior; on good soil. (*R. Bell.*) Rich woods, London, and Parry Sound, Ont. (*Burgess.*) North shore of Lake Superior. (*Agassiz.*)

(2229.) **C. Menziesii,** Lindl. Orchid., 492.

Spiranthes decipiens, Hook., Fl. II., 203.

Rich woods, taking the place of *G. pubescens* west of Lake Huron. Lake Huron. (*Goldie.*) Lake Simcoe, Ont. (*Drummond.*) Manitoulin Island. (*Mrs. Saunders.*) Woods, Manitoulin Islands, and at Parry Sound, Ont. (*Burgess.*) Rather common along Beaver Creek, Selkirk Range; also abundant in all evergreen woods throughout Vancouver Island. (*Macoun.*) Flathead River, B.C., and Queen Charlotte Islands. (*Dawson.*) Near the sources of the Columbia River, Rocky Mountins. (*Drummond.*)

595. ARETHUSA, Linn. Gen. 1014. (ARETHUSA.)

(2230.) **A. bulbosa,** Linn. Hook., Fl. II., 201; Pursh, Fl. II., 590.

Peat bogs, common eastward. Newfoundland. (*Cormack.*) New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Halifax and Mahone Bay, Lunenburg Co., N.S. (*Sommers, Cat.*) Peat bog, North West Arm, Halifax, N.S.; also in a bog at North Sydney coal mine, Cape Breton. (*Macoun & Burgess.*) Glenelg, Guysboro Co., N.S. (*Faribault.*) Richibucto, Fredericton, Norton, Chipman, and Musquash, N. B. (*Fowler, Cat.*) St. Stephen, N.B. (*Vroom.*) Very rare in Gomin's woods and swamp near Quebec. (*Thomas.*) Swamp at Three Rivers, Q., 1822. (*Dr. Holmes.*) Mer Bleue, near Ottawa. (*Fletcher, Fl. Ott.*) Big swamp, Murray, Northumberland, Co., Ont. (*Macoun.*) Mossy bogs, Westminster Ponds, London, Ont. Very rare. (*Burgess.*)

596. CALOPOGON, R. Br. (CALOPOGON.)

(2231.) **C. pulchellus,** R. Br. Hook., Fl. II., 202.

Cymbidium pulchellum, Pursh, Fl. II., 592.
Limodorum tuberosum, Michx., Fl. II., 159.

Peat bogs, not common. Newfoundland. (*Miss Brenton.*) New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Halifax, Pictou and

Mahone Bay, N.S.; Cape Breton. (*Sommers, Cat.*) Abundant in a peat bog at North Sydney Mine, Cape Breton. (*Macoun & Burgess.*) Smith's bog, Guysboro Co., N.S. (*Faribault.*) Magdalen Islands. (*McKay.*) Peat bogs, Richibucto, Kouchibouguac, and Day's mills, N.B. (*Fowler, Cat.*) St. Henri, Lévis Co., Q. (*St. Cyr.*) Common at Quebec, in Gomin's woods. (*Thomas.*) Abundant in bogs near the Indian village, Rivière Rouge, Q. (*D'Urban.*) Savanne, near Montreal, 1821. (*Dr. Holmes.*) Bogs; abundant in the vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Bay, west of Prescott Junction, Ont. (*Billings.*) Big swamp, Murray, Northumberland Co.; border of a lake near Marmora village, and in a swamp, Huntingdon, North Hastings; also shore of Lake Huron, at Chicken Bay, Ont. (*Macoun.*) Westminster Ponds and mossy bogs, London, Ont. (*Burgess. Millman.*)

597. POGONIA, Juss. Gen. 65. (POGONIA.)

(2232.) **P. ophioglossoides,** Ker., Bot. Reg. 148. Hook., Fl. II., 201.

Arethusa ophioglossoides, Pursh, Fl. II., 590; Michx., Fl. II., 159.

Peat bogs, not common in Ontario. Newfoundland. (*Dr. Morrison.*) New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Halifax, Pictou and Mahone Bay, N.S.; Cape Breton. (*Sommers, Cat.*) In a peat bog at North Sydney Mine, Cape Breton. (*Macoun.*) Scarce about Richibucto and Fredericton; abundant at Tomlinson's Lake; at Clifton, Andover, and Tay's mills, N.B. (*Fowler, Cat.*) St. Charles, Bellechasse Co., Q. (*St. Cyr.*) In a swamp at Three Rivers, Q., 1822. (*Dr. Holmes.*) Common in bogs near the Indian Village, Rivière Rouge, Argenteuil Co., Q. (*D'Urban.*) Rare at Quebec, in Gomin's woods. (*Thomas.*) Peat bogs, vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Big swamp, Murray, Northumberland Co.; swamp, Dummer, Peterboro Co., and at Hooper's Lake, North Hastings; swamp and marsh at Chicken Bay, Lake Huron. (*Macoun.*) Bog at Millgrove, near Hamilton, Ont. (*Logie.*) Westminster Ponds, London Ont. (*Saunders. Millman.*) Mossy bogs, London and Parry Sound, Ont. (*Burgess.*)

(2233.) **P. pendula,** Lindl. Hook., Fl. II., 202.

Triphora pendula, Nutt., Gen. II., 193.
Arethusa pendula, Pursh, Fl. II., 590.
A. parviflora, Michx., Fl. II., 160.

Damp woods, Canada. (*Goldie* vide *Hooker.*) We have never seen a Canadian specimen of this species. It should be looked for in south western Ontario.

(2234.) **P. verticillata,** Nutt. Gen. II., 192.

Arethusa verticillata, Pursh, Fl. II., 591.
A. ophioides, Pursh, Fl. II., 591.

Low damp woods, Komoka, Ont.; rare. (*Burgess. Millman.*)

598. EPIPACTIS, R. Br.

(2235.) **E. gigantea,** Dougl. Hook., Fl. II., 202.

E. Americana, Lindl., Orchid. 462.

Under evergreens, at Osoyoos Lake, B.C. (*Dawson.*)

599. ORCHIS, Linn. Gen. 1009. (ORCHIS.)

(2236.) **O. spectabilis,** Linn. Hook., Fl. II., 195; Pursh, Fl. II. 587.

O. humilis, Michx., Fl. II., 155.

Rich low woods, rather rare. Keswick, and at Eel River, Carleton Co., N.B. (*Fowler, Cat.*) Gomin's wood, Quebec. (*St. Cyr.*) Vicinity of Montreal, 1821. (*Dr. Holmes.*) Stewart's bush and other localities near Ottawa, not uncommon. (*Fletcher, Fl. Ott.*) Miriwin's woods and elsewhere around Prescott, Ont.; common. (*Billings.*) Rich woods near Belleville, Hastings Co.; also at Castleton and Campbellford, Northumberland Co., Ont. (*Macoun.*) Vicinity of Hamilton. (*Logie.*) Rich woods, London, Ont. (*Burgess. Millman.*)

(2237.) **O. aristata,** Fisch. Hook., Fl. II., 195.

O. latifolia, Linn. Rothrock's Alaskan Plants, 456.

Ounalashka. (*Chamisso* vide *Hooker.*)

(2238.) **O. rotundifolia,** Gray, Amer. Journ. Sci. CXIV., 72. Pursh, Fl. II., 588.

Habenaria rotundifolia, Rich. Gray, Man. Ed. V., 500, Macoun, Cat., No. 1773.
Platanthera rotundifolia, Lindl. Orchid. 286.

Occasionally met with in peat bogs; commoner westward. Rivière de Brig, Anticosti. (*Macoun.*) In damp woods near Rivière du Loup, Q. (*Thomas.*) Mingan Islands, Q. (*St. Cyr.*) Very abundant in the big swamp, Murray, Northumberland Co., Ont. Dow's swamp, near Ottawa. (*Fletcher, Fl. Ott.*) Lake Mistassini, N.E.T.; also South

Twin Island, James Bay. (*J. M. Macoun.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) Lake Winnipeg. (*Back.*) Slopes of Cypress Hills, Alberta. (*J. M. Macoun.*) Damp woods, Lake Winnipegoosis; in the foot-hills at Morley and westward to Silver City, Rocky Mountains; also in a bog on the Rocky Mountain Portage, Peace River Cañon, lat. 56°, and at McLeod's Lake, B.C., lat. 55°. (*Macoun.*) Banff, Rocky Mountain. (*Prof. Fowler.*) Between Fort Churchill and York Factory, Hudson Bay. (*Dr. Rae.*) Greenland. (*Lange.*)

600. HABENARIA, Willd. Spec. IV., 44. (REIN-ORCHIS.)

(2239.) **H. tridentata,** Hook., Ex. Fl. 81.

Platanthera tipuloides, Lindl., Orchid, 285.
Gymnadenia (?) tridentata, Lindl. Hook., Fl. II., 195.
Orchis tridentata, Pursh, Fl. II., 586.
O. clavellata, Michx., Fl. II., 155; Pursh, Fl. II., 586.

Peat bogs and borders of lakes. Newfoundland. (*Miss Brenton.*) New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Brigus, Newfoundland. (*R. Bell.*) Windsor, Halifax, Pictou, Truro, and Straits of Canso, N.S. (*Sommers, Cat.*) Caledonia, Guysboro Co., N.S. (*Faribault.*) Wet slopes, Baddeck, Cape Breton. (*Macoun.*) Common in Kent Co.; also St. John Co., N.B. (*Fowler, Cat.*) Black Lake, on King's Mountain, Chelsea, P.Q.; rare. (*Fletcher, Fl. Ott.*) Border of Hooper's Lake, North Hastings; tamarac swamp near Norah's Lake, Victoria Co., Ont. (*Macoun.*) Border of the marsh at Millgrove, near Hamilton, Ont. (*Logie.*) Mossy bogs, London and Parry Sound, Ont. (*Burgess.*) Opposite Grand Island, Lake Superior. (*R. Bell.*) Lake Huron. (*Hooker, Fl.*)

(2240.) **H. virescens,** Spreng. Gray, Man. Ed. V., 499.

Platanthera flava, Gray. Sill. Journ. XXXVII., 308.
P. herbiola, Lindl. Hook., Fl. II., 197.
Orchis fuscescens, Pursh, Fl. II., 587.

Wet places along Crow River at Marmora, Hastings Co.; on Ship Island, Gull Lake, Victoria Co., Ont.; also eleven miles up the Kaministiqua River, Thunder Bay. (*Macoun.*) Prince's Island, near Hamilton, Ont. (*Logie.*) In low ground, London; rare; also on Moon River, Muskoka, Ont. (*Burgess.*) Between Norway House and Canada. (*Hooker, Fl.*)

(2241.) **H. bracteata,** R. Br., Hort. Kew. (Ed. 2) V., 192.

H. viridis, R. Br., Var. *bracteata,* Reichenbach, Macoun, Cat. No. 1775.
Peristylis bracteatus, Lindl. Hook., Fl. II., 201.
Orchis bracteata, Pursh, Fl. II., 587.

In grassy woods and meadows. Taborville, Petitcodiac, Havelock, and Tobique Forks, N. B. (*Fowler, Cat.*) Common in woods at Rivière du Loup, Q. (*Thomas.*) Island of Orleans. (*St. Cyr.*) Swamps and by rivers, near Montreal, 1821. (*Dr. Holmes.*) Observed in several places along the Rivière Rouge, Argenteuil Co., Q. (*D'Urban.*) Not uncommon near Ottawa. (*Fletcher, Fl. Ott.*) Moist thicket west of Prescott Junction, Ont. (*Billings.*) Occasional all over the counties of Prince Edward, Hastings, and Northumberland, Ont., but never abundant. (*Macoun.*) Mountain near Hamilton, Ont. (*Logie.*) Low woods, London, Ont.; also at Emerson, Man. (*Burgess. Millman.*) Rather common in many places on the Great Plains, extending to Canmore, in the Rocky Mountains and appearing again at Donald, Columbia Valley; along the Telegraph Trail, lat. 55°, B.C.; also occasionally met with near Victoria and Goldstream, Vancouver Island. (*Macoun.*) Calgary, Alberta. (*Prof. Fowler.*) Sitka and Ounalaska. (*Roth. Alask.*) Lake Winnipeg. (*Back.*) From Lake Huron to the Saskatchewan, and to swamps in the Rocky Mountains. (*Hooker, Fl.*)

(2242.) **H. Chorisianus,** Lindl.

Platanthera Chorisianus, Lindl. Hook., Fl. II., 201.

Ounalashka. (*Hooker, Fl.*)

(2243.) **H. hyperborea,** R. Br. Rich., App. II., 33.

Platanthera hyperborea, Lindl. Hook., Fl. II., 197.
P. Huronensis, Lindl. Hook., Fl. II., 198.
P. Königii, Lindl. Hook., Fl. II., 197.
Orchis hyperborea, Pursh, Fl. II., 588.

Abundant in bogs, and extending from the Atlantic to the Pacific. Newfoundland. (*Miss Benton.*) New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Labrador. (*Butler.*) Harris Cove, Andover, and Upper St. John, N.B. (*Fowler, Cat.*) Campbellton, N. B. (*Chalmers.*) Peat bog, Salt Lake, Anticosti. (*Macoun.*) Common in woods at Rivière du Loup, Q. (*Thomas.*) Island of Orleans, Q. (*St. Cyr.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Moist thickets, east of Prescott, Ont. (*Billings.*) Peat bogs and swamps, general throughout central Ontario. (*Macoun.*) Sulphur spring, Ancaster, near Hamilton, Ont. (*Logie.*) Wet shady woods, London, and Southampton, Ont. (*Burgess.*) St. Joseph's Island, Drummond Island, and Thompson's

Point, Georgian Bay. (*J. Bell.*) Abundant around Lake Superior and along the Dawson route to the Red River. (*Macoun.*) Lake Mistassini, N.E.T.; Severn River, Keewatin; Charlton Island and "The Twins," James Bay. (*J. M. Macoun.*) Moose Factory, James Bay. (*Cottar & Hayden.*) Between Lake Winnipeg and York Factory. (*R. Bell.*) Cypress Hills and Calgary, Alberta. (*J. M. Macoun.*) Fort Ellice, Long Lake, and Hand Hills, N.W.T. (*Macoun.*) Belly River, 49th parallel, Rocky Mountains. (*Burgess. Millman.*) Crow Nest Pass, Rocky Mountains. (*Dawson.*) Abundant in swamps and mountain meadows from Morley westward through the Rocky Mountains to the Selkirk summit. (*Macoun.*) Quesnel Lake, B.C., alt. 2,200 feet, (*Bowman.*) Bartlett Bay, Alaska. (*Meehan.*) From the Saskatchewan to Fort Franklin; also Ounalashka. (*Hooker, Fl.*) Greenland. (*Lange.*)

(2244.) **H. gracilis,** Watson. Proced. Am. Acad., XII., 276.

Platanthera gracilis, Lindl. Hook., II., 198.
P. stricta, Lindl. Hook., Fl. II., 199.

North West America. (*Menzies.*) Abundant in damp woods and along wooded slopes of Mount Arrowsmith and Mount Mark, at Qualicum and Alberni, and occasionally in swamps in the interior of Vancouver Island. (*Macoun.*) Mount Finlayson, Vancouver Island. (*Fletcher.*) North West coast of America. (*Douglas.*)

(2245.) **H. sparsiflora,** Watson. Proced. Am. Acad., XII., 276.

Platanthera graminea, Lindl. Hook., Fl. II., 199.

Both this and the above species look like *H. hyperborea,* but they are easily distinguished by the spur, which in the former is saccate, and in the latter is quite long and slender. (*Macoun.*) North West coast. (*Menzies.*)

(2246.) **H. dilatata,** Gray. Ann. Lyc. N. York, III., 231.

Platanthera dilatata, Lindl. Hook., Fl. II., 198.
Orchis dilatata, Pursh, Fl. II., 588.

Rather common in bogs from the Atlantic to the Pacific. Brigus, Newfoundland. (*R. Bell.*) New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Very abundant in a wet meadow at Louisburg, Cape Breton. (*Macoun & Burgess.*) Common in swamps and bogs at Kouchibouguac, Lily Lake, Campbelton, Tobique and Eel rivers, Chipman, and between Pabineau and Grand Falls, on the Nepisiquit, N.B. (*Fowler, Cat.*) Rivière de Brig and Ellis Bay, Anticosti; also Mount Albert, Gaspé, Q. (*Macoun.*) Mingan Islands, Q. (*St. Cyr.*)

Mountain swamp, near Montreal, 1821. (*Dr. Holmes.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Rather common in swamps throughout central Ontario, and abundant around Lake Superior and on the Island of Michipicotin. (*Macoun.*) Mossy bogs, London, Ont. (*Burgess Millman.*) Drummond Island and Thompson's Point, Georgian Bay. (*J. Bell.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) Red Deer River, and along the flanks of the Porcupine Mountain, Man.; rather common in the Rocky Mountains, from Morley westward to Hector. (*Macoun.*) South Kootanie Pass, Rocky Mountains. (*Dawson.*) Lake Lindeman, Yukon River, lat. 60°. (*Schwatka.*) Throughout Canada from Lake Huron to the Saskatchewan and Hudson Bay. (*Hooker, Fl.*)

(2247.) **H. leucostachys,** Watson. Proc. Am. Acad., XII., 276.

Platanthera leucostachys, Lindl., Fl. II., 198.

In exactly the same habitat as the preceding, but with larger, whiter and longer spurred flowers. Swamps at Donald and Beaver Creek, Columbia Valley; quite common in swamps at Victoria, Nanaimo, Alberni and Qualicum, Vancouver Island. (*Macoun.*) Tanyabunkut Lake, B.C. (*Dawson.*)

(2248.) **H. obtusata,** Rich. App. Ed. II., 33.

Platanthera obtusata, Lindl. Hook., Fl. II., 196.
Orchis obtusata, Pursh, Fl. II., 588.

Common in cool mossy woods throughout the forest region to British Columbia. New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Labrador. (*Butler.*) Truro, N.S. (*Lawson.*) Coal Branch, Kent Co.; Campbellton and Bald Mountain; also St. John Co. and Tobique River, N.B. (*Fowler, Cat.*) North Sydney, Cape Breton; South West Point, Anticosti; Little Fox River, Gaspé, Q. (*Macoun.*) Summit of Mount Albert, Gaspé. (*Porter.*) Mingan Islands, Q. (*St. Cyr.*) Peat bogs, Sturgeon Point, Ont. (*Burgess.*) Bogs at Sturgeon Lake, Ont. (*Mrs. Saunders.*) St. Joseph and Drummond Islands, Georgian Bay. (*J. Bell.*) Cedar swamps at Belleville and Castleton, also at Owen Sound, Ont.; abundant at Kakabeka Falls, Current River and Pie Island; Nipigon River, and westward along the Dawson road to the Lake of the Woods. (*Macoun.*) Lake Mistassini, N.E.T.; Charlton Island and Fort George, James Bay; also Cypress Hills, Alberta. (*J. M. Macoun.*) Damp woods, Lake Winnipegoosis and Porcupine Mountain, Man.; in the foot-hills, from Morley westward through the Rocky Mountains to Donald in the Columbia valley; also at Fort McLeod, lat. 55°, B.C. (*Macoun.*) Gatcho Lake,

B.C. (*Dawson.*) Kotzebue Sound. (*Rothr. Alask.*) Between Fort Churchill and York Factory, Hudson Bay. (*Dr. Rae.*) Nova Scotia. Cape Torment, near Quebec, west to Carleton House Fort, on the Saskatchewan and alpine swamps of the Rocky Mountains, and thence to Bear Lake and Fort Franklin; North West coast and Kotzebue Sound. (*Hooker, Fl.*)

(2249.) **H. elegans,** Bolander. Cat. Pl. San. Fran. 29.

Platanthera elegans, Lindl. Hook., Fl. II.,196.

Rich or gravelly woodlands; confined to the west coast. Flowering late. This form may be easily distinguished from the next by the *long* spur. Rather rare near Victoria, Vancouver Island, but frequent in the woods at Nanaimo and northwards to Qualicum, and Horne Lake, where it is common on gravelly soil. (*Macoun.*)

(2250.) **H. Unalaschensis,** Watson. Proc. Am. Acad., XII., 277.

H. fœtida, Watson. Bot. King Exp., V. 341; Macoun, Cat., No. 1765.
Platanthera Schischmareffiana, Lindl. Hook., Fl. II., 197.

Very rare eastward but abundant on the west coast. Open gravelly woods, Jupiter River, Anticosti; also on the Fishing Islands, Lake Huron; on gravel of a mountain torrent at the "Gap," Rocky Mountains; very abundant on Mount Finlayson and the other mountains around Goldstream, and on gravelly soil at Qualicum, and Cameron Lake, Vancouver Island. Flowering early. (*Macoun.*) Vicinity of McLeod's Lake, B.C. (*Dawson.*) Ounalashka. (*Hook. Fl.*)

(2251.) **H. Menziesii,** Lindl. Gen. Orch., 286.

Platanthera Menziesii, Lindl. Hook., Fl. II., 197.

North West coast. (*Menzies* vide *Hooker.*)

(2252.) **H. Hookeri,** Torr. Gray. Ann. Lyc. N. York, III., 229.

Platanthera Hookeri, Lindl. Hook., Fl. II., 196.
H. orbiculata, Hook. Ex. Fl. 145.

Cool and damp woodlands and borders of swamps. Windsor, Dartmouth and Elmsdale, N.S. (*Sommers, Cat.*) Pirate's Cove, N.S. (*Macoun & Burgess.*) Kouchibouguac, Kingston, Kent Co.; Grand Lake and Salmon River, also Petitcodiac, N.B. (*Fowler, Cat.*) St. Stephen, N.B. (*Vroom.*) Lake Tamiscouata, Q. (*Ami.*) Island of Orleans, Q. (*St. Cyr.*) Vicinity of Rivière du Loup, Q. (*Thomas.*) Neighborhood of Ottawa; very common. (*Fletcher, Fl. Ott.*) Moist thicket west of Prescott Junction, Ont. (*Billings.*) Damp woods, Oak Hills, Hastings Co., Ont. (*Macoun.*) Neighborhood of Hamilton,

Ont. (*Logie.*) Komoka, Ont. (*Millman.*) Two Heart River, north of Lake Huron, and on the Michipicotin River and Oba Lake, and river north of Lake Superior. (*R. Bell.*)

Var. **oblongifolia,** J. A. Paine. This form, as its name indicates, has oblong instead of orbicular leaves. Grows in similar situations. North Mountain, Annapolis, N.S. (*Macoun.*) Campbellton, N.B. (*Chalmers.*) Chelsea Mountain, Q. (*Fletcher, Fl. Ott.*)

(2253.) **H. orbiculata,** Torr. Compend. 318.

H macrophylla, Goldie. Edin. Phil. Journ., VI., 331.
Platanthera orbiculata, Lindl. Hook., Fl. II., 196.
Orchis orbiculata, Pursh, Fl. II., 588.

Rich shady woods, not uncommon but abundant nowhere. New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Halifax, Mount Dalhousie, Truro, Clam Harbor and Straits of Canso, N.S. (*Sommers, Cat.*) North Mountain, N.S. (*Burgess.*) Whycocogmah, Cape Breton. (*Macoun.*) Bass River, Loch Lomond, Nepisiquit Lakes, Eel River, Clifton and Tobique River, N.B. (*Fowler, Cat.*) River Ste. Anne des Monts, Gaspé coast. (*Macoun. Porter.*) Mountain swamp and Portage des Gres, near Montreal, 1821. (*Dr. Holmes.*) Island of Orleans. (*St. Cyr.*) Abundant in woods along the River Rouge, Argenteuil Co., Q. (*D'Urban.*) Vicinity of Ottawa; rather rare. (*Fletcher, Fl. Ott.*) Near Albion Mills, Ont. (*Logie.*) Under clumps of pines, English's woods, London, Ont. (*Saunders.*) Rich woods, Parry Sound, Ont. (*Burgess.*) Hilton, Drummond Islands, and Cockburn Island, Georgian Bay. (*J. Bell.*) Opposite Grand Island, Lake Superior. (*R. Bell.*) Woods near Belleville, and at the Oak Hills Hastings Co.; also at Castleton, Brighton, and Campbellford, Northumberland Co., Ont.; woods, Lake Nipigon and at Kakabeka Falls, near Lake Superior; Swan Lake House, and on the banks of the Red Deer River, Lake Winnipegoosis, Man.; rich woods along the Columbia River at Donald, B. C. (*Macoun.*) West to the Saskatchewan. (*Hooker, Fl.*)

(2254.) **H. ciliaris,** R. Br. Hort. Kew. (Ed. 2) V., 192.

Platanthera ciliaris, Lindl. Hook., Fl. II., 199.
Orchis ciliaris, Pursh, Fl. II., 585. Michx. Fl. II., 156.

Low sandy soil, near Leamington, Essex Co., Ont. (*Burgess.*) Canada. (*Goldie.*) Apparently very rare in Ontario.

(2255.) **H. blepharlglottis,** Torr. Compend. 317.

Platanthera blephariglottis, Lindl. Hook., Fl. II., 199.
P. holopetala, Lindl. Hook., Fl. II., 199.
Orchis blephariglottis, Pursh, Fl. II., 585.

We include the variety *holopetala* in the species as our knowledge is too limited to separate them. Peat bogs, apparently rare. Newfoundland. (*Miss Brenton.*) New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Halifax and Bedford, N.S. (*Sommers, Cat.*) Bogs, Pictou Co, N.S. 1885. (*Robert.*) Kouchibouguac, Maryland road, near Fredericton; Tay's mills, York Co., and Chipman, N.B. (*Fowler, Cat.*) Island of Orleans. (*St. Cyr.*) Bogs in Gomin's woods, near Quebec. (*Thomas.*) Mer Bleue, near Ottawa. (*Fletcher, Fl. Ott.*) Peat bogs, Lake Island, Lake Joseph, Muskoka, Ont. (*Burgess.*)

(2256.) **H. leucophæa,** Gray, Man. Ed V., 502.

Orchis leucophæa, Nutt.

Caledonia, Guysboro Co., N.S. (*Faribault.*) Moist meadows and bogs, abundant at Baddeck and North Sydney, Cape Breton. (*Macoun.*) Gomin's woods, Quebec. (*Thomas.*) Island of Orleans. (*St. Cyr.*) Millgrove, near Hamilton, Ont. (*Logie.*) Mossy woods, London, Ont. (*Burgess.*)

(2257.) **H. lacera,** R. Br. Hort. Kew. (Ed. 2) V., 193.

Platanthera psycodes, Lindl. Hook., Fl. II., 200.
Orchis psycodes, Pursh, Fl. II., 585.
O. lacera, Michx., Fl. II., 156; Pursh, Fl. II., 586.

Rich damp woods, rare and local. Windsor, Halifax and Pictou, N.S. (*Sommers, Cat.*) Meadows at Baddeck, Cape Breton. (*Burgess.*) Kouchibouguac; Petitcodiac and Hampton; common between Au Lac and Port Elgin, N.B. (*Fowler, Cat.*) Rich woods near the hop yard, Belleville, Ont. (*Macoun.*) Peat bogs, Westminster Ponds, near London, Ont. (*Burgess.*)

(2258.) **H. psycodes,** Gray. Manual Ed. V., 502.

Platanthera fimbriata, Lindl. Var. β. Hook. Fl. II., 200.
P. incisa, Lindl. Hook., Fl. II., 200.
Orchis fimbriata, Pursh, Fl. II., 588.
O. incisa, Pursh, Fl. II., 589.

Moist woods and swamps, common in certain localities. Newfoundland. (*Miss Brenton.*) Windsor, Bedford, Pictou, Truro, and at the Straits of Canso, N.S. (*Sommers, Cat.*) Wet meadows at Baddeck, Cape Breton. (*Macoun.*) Common in wet meadows and bogs, Kent Co.;

also at Norton, N.B. (*Fowler, Cat.*) Nictau Lake, N.B. (*Hay.*) Gomin's woods, near Quebec. (*Thomas.*) Point Fame and Fox River, Gaspé coast, Q. (*Macoun.*) Harbor Island, Mingan Islands; and Island of Orleans. (*St. Cyr.*) Salt Lake, Anticosti. (*Verrill.*) Swamp at Beechwood, and other places near Ottawa. (*Fletcher, Fl. Ott.*) Common at Prescott, Ont. (*Billings.*) Swamp east of Belleville, and in numerous places in North Hastings and at Marmora and Myersburg, in Northumberland Co.; also on the shore of Chicken Bay, Lake Huron, Ont. (*Macoun.*) Millgrove, near Hamilton, Ont. (*Logie.*) In swampy soil at London, Ont.; common (*Burgess. Millman*) Owen Sound, Drummond Island, Thompson's Point, and McLeod's Harbor, Georgian Bay. (*J. Bell.*) Sault Ste. Marie. (*R. Bell.*) Fifteen miles up the Kaministiqua River, west of Lake Superior. (*Macoun.*) Rainy River, North Western Ontario. (*Dawson.*)

(2259.) **H. fimbriata,** R. Br. Hort. Kew. (Ed. 2) V., 193.

Platanthera fimbriata, Lindl. Var. *a.* Hook. Fl. II., 200.

Low meadows and swamps; rare. Meadow's, Caledonia, Guysboro Co., N.S. (*Faribault.*) Bass River, N.B.; rare. (*Fowler, Cat.*) Tobique River, N.B., 1884. (*Hay.*) Ste. Anne de la Pérade, Champlain Co., Q. (*St. Cyr.*) Gomin's woods, near Quebec. (*Thomas.*) Abundant in low swampy ground, River Rouge, Argenteuil Co., Q. (*D'Urban.*) Gregory's meadows, Montreal, 1821. (*Dr. Holmes.*) Land's farm, near Hamilton, Ont. (*Logie.*)

601 CYPRIPEDIUM, Linn. Gen. 1015. (LADY'S SLIPPER.)

(2260.) **C. arietinum,** R. Brown. Hort. Kew. (Ed. 2) V., 222.

Cedar and tamarack swamps, usually on hummocks. Saguenay River. Q. (*Scott.*) Savanne, near Montreal, 1821. (*Dr. Holmes.*) Dow's swamp, Ottawa. (*Fletcher, Fl. Ott.*) Abundant in the big swamp, Murray, Northumberland Co.; also in a swamp at the base of the Oak Hills, and in pine woods two miles north of Belleville, Hastings Co., Ont. (*Macoun.*) Portage of the Grand Rapid of the Saskatchewan, Man. (*Hooker, Fl.*)

(2261.) **C. parviflorum,** Salisb. Linn., Soc. Trans. I., 77; Pursh, Fl. II., 594.

C. Calceolus, Michx., Fl. II., 161.

Rather common in swamps in Ontario. Newfoundland. (*Miss Brenton.*) Restigouche Co.; also Tobique, near Pokiok, N.B. (*Fowler,*

Cat.) Anticosti and Mingan Islands. (*Verrill.*) River de Brig, Anticosti. (*Macoun.*) Savanne, near Montreal, 1821. (*Dr. Holmes.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Cedar swamp north-west of Prescott, Ont.; rare. (*Billings.*) Swamps near Belleville; also in the big swamp, Murray, Northumberland Co., Ont. (*Macoun.*) Mountain side beyond Mr. Bridge's house, Hamilton, Ont. (*Logie.*) Cedar swamps, London, Ont. (*Burgess.*) Komoka, Ont. (*Millman.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) Water Hen River, Lake Winnipegoosis, and on the Assiniboine River, at the Grand Valley, Man.; also at the Kananaskis bridge, C.P.R., Rocky Mountains. (*Macoun.*) Throughout Canada to Lake Winnipeg and the Rocky Mountains. (*Hooker, Fl.*)

(2262.) **C. pubescens,** Swartz. Hook., Fl. II., 205; Pursh, Fl., II., 594.

C. parviflorum, Ait. Bot. Mag. t., 911 (non Willd.)

Common in swamps, and often on banks in woods. Port Mulgrave, Guysboro Co., N.S. (*Ball.*) Truemansville, N.S. (*Trueman.*) Galloway, near Richibucto; rather rare; Edmunton, and common at Andover, N.B. (*Fowler. Cat.*) Campbellton, N.B. (*Chalmers.*) Swamps along the Gaspé coast. (*Macoun.*) In wet places, Rivière du Loup, Q. (*Thomas.*) St. Charles Island, Mingan. (*St. Cyr.*) Savanne, near Montreal, 1821. (*Dr. Holmes.*) Near Lake St. Jean, Wentworth, Argenteuil Co., Q. (*D'Urban.*) Hull, Q.; Little Chaudiere, and other places near Ottawa. (*Fletcher, Fl. Ott.*) Common in woods and swamps. Hastings, Prince Edward and Northumberland Co's., Ont. (*Macoun.*) Prince's Island, near Hamilton, Ont. (*Logie.*) Cockburn Island, Georgian Bay. (*J. Bell.*) East side of La Cloche Island, Georgian Bay. (*R. Bell.*) London, Ont., and Emerson, Man. (*Burgess. Millman.*) Lake Mistassini, N.E.T., and Missinaibi River, Ont. (*J. M. Macoun.*) Echimamish River, Keewatin. (*R. Bell.*) In swamps along Lake Winnipegoosis, and abundant on the prairie and in thickets throughout Manitoba, and westward to the base of the Rocky Mountains at Kananaskis, C.P.R. (*Macoun.*) Canada to the Saskatchewan. (*Hooker, Fl.*)

(2263.) **C. spectabile,** Salisb. Linn., Trans. I., 78; Hook., Fl. II., 204. Pursh, Fl. II., 594.

C. Canadense, Michx., Fl. II., 161.
C. album, Ait. Kew. (Ed. 1) III., 303.

Cedar and tamarack swamps, often abundant. Pictou, N.S. (*McKay.*) St. John Co.; Restigouche; York and Castleton Co's.; Andover and

Tobique River. (*Fowler, Cat.*) Nicolet, Q. (*St. Cyr.*) Mountain swamp, Montreal, 1821. (*Dr. Holmes.*) Dow's swamp and Experimental Farm, Ottawa, abundant. (*Fletcher, Fl. Ott.*) Swamp near Heck's mills, North Augusta, and common in bogs northward from Prescott, Ont. (*Billings.*) Abundant in many swamps in Hastings, Prince Edward and Northumberland Co's., Ont.; also at Chicken Bay, Lake Huron. (*Macoun.*) Lake Medad, near Hamilton, Ont. (*Logie.*) Westminster Ponds; and swamps, London; also abundant at Southampton, Ont. (*Burgess.*) Thompson's Point, Georgian Bay. (*J. Bell.*)

(2264.) **C. acaule,** Ait. Kew. (Ed. 1.) III., 161; Michx. Fl. II., 161.

C. humile, Pursh, Fl. II., 595; Hook., Fl. II., 204.

In swamps and pine or sandy woods; frequent. Newfoundland. (*Miss Brenton.*) New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Windsor; North West Arm, Halifax; Pictou and Guysboro, N.S. (*Sommers, Cat.*) North Mountain, Annapolis, and at Kingston, N.S. (white variety.) Halifax. (*Macoun & Burgess.*) Rather common, Black River, Northumberland Co.; Fredericton; Lily Lake; St. Francis River, N.B. (white variety.) (*Fowler, Cat.*) Lake Temiscouata, Q. (*Ami.*) Outchechow, and Island of Orleans, Q. (*St. Cyr.*) In woods at Rivière du Loup, Q. (*Thomas.*) On gneiss rocks and sand, River Rouge, Argenteuil Co., Q. (*D'Urban.*) Lake Flora, near Hull, and in a swamp at Beechwood, near Ottawa. (*Fletcher, Fl. Ott.*) Swamp near Heck's mills, near Prescott, Ont. (*Billings.*) Vicinity of Hamilton, Ont. (*Logie.*) Evergreen woods and Westminster Ponds, London, Ont. (*Burgess. Millman.*) Not uncommon in swamps throughout Hastings, Addington, Northumberland and Peterboro Co's., Ont.; also on St. Ignace Island, and at the mouth of Nipigon River, Lake Superior. (*Macoun.*) Rupert River, N.E.T.; Severn River, Keewatin. (*J. M. Macoun.*) From Canada to Fort Franklin, on the Mackenzie River. (*Hooker, Fl.*)

(2265.) **C. montanum,** Dougl. Lindl., Orchid, 528.

C. occidentale, Watson. Macoun Cat., No. 1801.

Exclusively western and confined to the Pacific slope. Occasionally met with at Donald, in the Columbia Valley, B.C.; also on the Fraser River, at Fort George, B.C. (*Macoun.*) Okanagan Lake, B.C. (*Dawson.*) Woods near Cadboro Bay, Vancouver Island. (*King.*) Vicinity of Victoria, Vancouver Island. (*Fletcher.*)

(2266.) **C. passerinum,** Rich. Hook., Fl. II., 205.

C. parviflorum, Rich. App. Ed. I., 340.

On wet sand and in swamps; rare. Near Moose Factory, James

Bay. (*Cottar & Dr. Hayden.*) Charlton Island, James Bay. (*J. M. Macoun.*) On wet sand at the Pic River, Lake Superior; very abundant in a spruce swamp at the Kananaskis station, close to Bow River, Rocky Mountains and westward to Silver City. (*Macoun.*) Pine woods, from the Saskatchewan to lat. 58°, and in the Rocky Mountains. (*Hooker, Fl.*) Cañon, Yukon River, 1887. (*W. Ogilvie.*)

(2267.) **C. guttatum,** Swartz. Reichenb. Ic. Bot. t, 210.

We know nothing of this species. Two specimens only, with withered flowers, were gathered at Fort Franklin, on the Mackenzie, by Dr. Richardson. Most abundant at Ounalashka. (*Hooker, Fl.*)

CIV. HÆMODORACEÆ. Blood-wort Family.

602. ALETRIS, Linn. Gen. 428. (COLIC-ROOT)

(2268.) **A. farinosa,** Linn. Sp. (Ed. 2.) I., 456.

A. alba, Michx., Fl. I., 189; Pursh, Fl. I., 225.

Sandy thickets. Leamington, Essex Co., Ont. (*Burgess.*)

CV. IRIDACEÆ. Iris Family.

603. IRIS, Linn. Gen. 59. (FLOWER-DE-LUCE)

(2269.) **I. versicolor,** Linn. Hook., Fl. II., 206; Pursh, Fl. I., 29.

I. Virginica, Pursh, Fl. I., 29.

Abundant in ditches, swamps, and by river and lake margins. New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Halifax, Pictou and Canso, Guysboro Co., N.S. (*Sommers, Cat.*) Truro and Annapolis, N.S. (*Macoun.*) Abundant in wet places throughout New Brunswick. (*Fowler, Cat.*) Dalhousie, N.B., in a fresh water swamp. (*Fletcher.*) Common throughout Quebec and Ontario, extending westward to the Lake of the Woods (*Burgess*) and north eastward to Lake Mistassini, N.E.T., and Charlton Island, James Bay, and west to Lake Winnipeg and Beren's River. (*J. M. Macoun.*) Winnipeg and North West Angle Road. (*Dawson.*) Michipicotin River, from Long Portage to Lake Mattawagaming, north of Lake Superior. (*R. Bell.*)

(2270.) **I. Hookeri,** Penny; Stend. Nomen., 1840.

I tridentata, Hook. Fl. II., 206.

I. Caurina, Hook., Fl. II., 206.

Apparently peculiar to the sea coast, and always found within the limit of the spray from the sea. The writer is of opinion that all allusions to *I. versicolor,* found on the coast, belong here. New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Wet bank above the sea, Louisburg, Cape Breton. (*Burgess.*) On the sand bar, South Sydney, Cape Breton; abundant along the whole Gaspé coast, from Gaspé Basin to Petit Metis. (*Macoun.*) Dalhousie, N.B. (*Fletcher.*) Cacouna and Kamouraska, Q. (*Pringle.*) Mingan Islands, St. Lawrence. (*St. Cyr.*) Magdalen Islands, Gulf of St. Lawrence. (*J. Richardson.*) Mingan Islands; and Ellis Bay, Anticosti. (*Verrill.*)

(2271.) **I. tenax,** Dougl. Hook., Fl. II., 206.

No Canadian specimen of this species has ever fallen into our hands. Newfoundland and New Brunswick. (*Hooker, Fl.*) In the neighborhood of Hull, near Ottawa; Determined by Dr. Vasey. (*Fletcher, Fl. Ott.*) Common on dry undulating grounds, from Cape Mendocino to Puget's Sound, North West Coast. (*Hooker, Fl.*) We strongly suspect that the eastern references belong to *I. Virginica,* but have no means of deciding.

(2272.) **I. Virginica,** Linn. Hook., Fl. II., 206.

I. prismatica, Pursh, Fl. I., 30.

Chiefly in salt marshes along the coast. Abundant in meadows close to the sea, Louisburg, Cape Breton, 1883. (*Macoun. Burgess.*) New Brunswick. (*Hooker, Fl.*) Nova Scotian and New Brunswick collectors should examine the salt marshes and meadows near the coast for *Iris tridentata* and *I. Virginica,* as there is no doubt of their wide distribution in the maritime provinces.

(2273.) **I. lacustris,** Nutt. Gray, Man. Ed. V., 517.

Sandy thickets close to the beach at Chicken and Red Bays, Bruce Peninsula, Lake Huron, 1871. (*Macoun.*) Very abundant in sandy thickets along Lake Huron at Southampton, Ont. (*Burgess.*)

(2274.) **I. Sibirica,** Linn. Rothr. Alask., 456.

Norton and Kotzebue Sound, Alaska. (*Rothr. Alask.*) We know nothing of this species.

604. SISYRINCHIUM, Linn. Gen. 1017. (BLUE-EYED GRASS)

(2275.) **S. anceps,** Cav. Pursh, Fl. I., 31; Hook., Fl. II., 207.

S. Bermudiana, Michx., Fl. I., 33.

S. Bermudiana, Linn. Var. *anceps.* Gray, Man. Ed. V., 517.

Very common, either under this form or the next, from the Atlantic to the Pacific. As the next is the commoner form, we place all general references to *S. Bermudiana* under it and only record here the specimens we have seen. Newfoundland to the Saskatchewan. (*Hooker, Fl.*) New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Amherst Island Magdalen Islands, N.S. (*J. Richardson.*) Coast of Gaspé, Q., and at Belleville, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Kitaman River, Kootanie Valley, Rocky Mountains. (*Dawson.*) Donald, Columbia Valley, B.C. (*Macoun.*) Sitka. (*Rothr. Alask.*)

(2276.) **S. mucronatum,** Michx. Fl. I., 33; Hook., Fl. II., 206.

S. *Bermudiana,* Linn. Var. *mucronatum,* Gray, Man. Ed. V., 517.

Petty Harbor, Newfoundland. (*R. Bell.*) Windsor, Halifax and Pictou, N.S. (*Sommers, Cat.*) Wet meadows, Louisburg, Cape Breton. (*Macoun.*) Meadows at Sherbrooke, Guysboro Co., N.S. (*Faribault.*) Among grass, everywhere, New Brunswick. (*Fowler, Cat.*) Throughout Quebec and Ontario, and extending to Hudson Bay on the north, and including the prairie region, the Rocky Mountains, British Columbia and Vancouver Island. All collectors throughout this immense region have met with it, and although it takes the form of Var. *albidum* on the prairies, and becomes more scabrous and taller on Vancouver Island, there are no constant characters to separate it into varieties.

(2277.) **S. Californicum,** Ait. Hort. Kew. (Ed. 1) IV., 135.

S. lineatum, Torrey, Pacif. Ry. Rep., IV., 143.

Abundant along the shores of Shawnagin Lake; Horne Lake, near Qualicum; and Sproat Lake, near Alberni, Vancouver Island, 1887. (*Macoun.*)

2278.) **S. grandiflorum,** Dougl. Hook., Fl. II., 207.

A most lovely flower and one of the earliest; on dry mossy rocks, amongst oaks in the southern part of Vancouver Island, especially at Victoria and Cedar Hill. (*Dawson, Fletcher, Macoun.*)

CVI. AMARYLLIDACEÆ. Amaryllis Family.

605. HYPOXIS, Linn. Gen. 417. (STAR-GRASS)

(2279.) **H. erecta,** Linn.- Pursh, Fl. I., 224; Hook., Fl. II., 207.
H. Carolinianum, Michx., Fl. I., 188.

Meadows and grassy woodlands. Not common, eastward. Sandy meadow near Trenton station, and in a meadow near the Ferry House, opposite Belleville, Hastings Co., Ont. (*Macoun.*) Prince's Island, near Hamilton, Ont. (*Logie.*) Sandy woodland, Hatchley, Ont.; also borders of woods. Emerson, Man. (*Burgess.*) Very abundant on the prairie at Brandon and the country around the Brandon Hills and westward (*Macoun.*) South of Moose Mountain, Assiniboia. (*J. M. Macoun.*) North Antler Creek, 49th parallel. (*Dawson.*)

CVII. DIOSCOREACEÆ. Yam Family.

606. DIOSCOREA, Linn. Gen. 1122. (YAM)

(2280.) **D. villosa,** Linn. Pursh, Fl. I., 251; Hook., Fl. II., 207.
D. paniculata, Michx., Fl. I., 239.

Very rare in Canada. Only found west of Toronto. Marsh near Dundas, Ont. (*Buchan.*) Thickets on river bank, London, Ont. (*Burgess. Millman.*)

CVIII. LILIACEÆ. Lily Family.

607. SMILAX, Linn. Gen. 1120. (GREEN-BRIER)

(2281.) **S. quadrangularis,** Pursh, Fl. I., 251.
S. rotundifolia, var. *quadrangularis*, Gray, Man. Ed. V., 519.
S. rotundifolia, Linn. Hook., Fl. II., 172; Pursh, Fl. I., 250.
S. caduca, Pursh, Fl. I., 250.

Thickets in damp woods on Pelee Point, Lake Erie, 1882. (*Macoun.*) Low woods near Leamington, Essex Co., Ont. (*Burgess.*)

(2282.) **S. hispida,** Muhl., Cat. 97.

Low swampy woods not common, eastward. Abundant in black ash swamps in many parts of Hastings Co.; borders of Cold Creek, Brighton, and along the Trent above Campbellford, and in woods west of Newcomb's Mills, Cramahe, Northumberland Co., Ont. (*Macoun*) Vicinity of Hamilton, Ont. (*Logie.*) Low woods and thickets at London and Owen Sound, Ont. (*Burgess.*) Port Dover, Lake Erie. (*Macoun.*)

(2283.) **S. herbacea,** Linn. Michx., Fl. I., 238; Pursh, Fl. I., 251.

S. peduncularis, Muhl. Hook., Fl. II., 173; Pursh, Fl. I., 251.
S. pulverulenta, Michx., Fl. I., 238.
S. lasioneuron, Hook., Fl. II., 173.

Rather common in rich woods and thickets. Rothesay and Fredericton; rather common along the St. John River, St. Hilaire, N.B. (*Fowler, Cat.*) Montreal Mountain, 1821. (*Dr. Holmes.*) Quebec and Island of Orleans. (*Thomas.*) Ste. Anne de la Pèrade, Champlain Co., Q. (*St. Cyr.*) Devil's River, on sand climbing over bushes, Argenteuil Co., Q. (*D'Urban.*) River banks and on islands at Ottawa. (*Fletcher, Fl. Ott.*) Thickets around Prescott, Ont., and northward; common. (*Billings.*) Borders of fields west of Hamilton, Ont. (*Logie.*) Neighborhood of London, Ont. (*Burgess. Millman.*) Borders of fences at Castleton and Belleville, Ont.; common; also 15 miles up the Kaministiqua, west of Lake Superior; in thickets along the Assiniboine River, west of Portage la Prairie, Man. (*Macoun.*) Thickets at Emerson, on the Red River, Man. (*Burgess.*) Canada to Lake Winnipeg and Red River, and west to Fort Carleton, on the Saskatchewan. (*Hooker, Fl.*)

608. ASPARAGUS, Linn. Gen. 424. (ASPARAGUS)

(2284.) **A.** OFFICINALIS, Linn. Pursh, Fl. I., 235. (Garden Asparagus.)

A garden escape in a number of localities. Waste places around Ottawa. (*Fletcher, Fl. Ott.*) Waste places at London, Ont. (*Burgess. Millman.*) Burlington Beach, near Hamilton, Ont. (*Buchan. Burgess.*) Waste heaps, and growing in a piece of woods near Belleville, Ont.; also at Victoria and Nanaimo, Vancouver Island. (*Macoun.*)

609. POLYGONATUM, Adans. (SOLOMON'S SEAL)

(2285.) **P. biflorum,** Ell. Gray, Man. Ed. V., 531.

P. multiflorum, Desf. Hook., Fl. II., 176, in part.

P. angustifolium, canaliculatum, pubescens, hirtum, latifolium and *multiflorum,* Pursh, Fl. I., 234-235.

Convallaria multiflora, Michx., Fl. I., 202.

Rather common in rich woodlands and by fences. Near Halifax, N.S. (*Lawson.*) Not rare, Pictou, N.S. (*McKay.*) Truro, Annapolis, and Windsor, N.S. (*Macoun.*) Fredericton; St. Stephen; common at Salmon River and Andover; St. Francis and Upper St. John, N.B. (*Fowler, Cat.*) Island of Orleans. (*St. Cyr.*) In rich woods at Rivière du Loup, Q. (*Thomas.*) Abundant in rocky woods, Argenteuil Co., Q. (*D'Urban.*) Montreal Mountain, 1821. (*Dr. Holmes.*) Rich woods, vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Rich woods, common at Prescott, Ont. (*Billings.*) Kemptville, Ont. (*Porter.*) Rich low woods, very common throughout central Ontario. (*Macoun.*) Common at Hamilton, Ont. (*Logie.*) Rich wooded banks at London; and Parry Sound, Georgian Bay. (*Burgess.*) Hilton, near Wiarton, Ont. (*J. Bell.*) Woods at Owen Sound, and in woods up the Kaministiqua, west of Lake Superior. (*Macoun.*)

(2286.) **P. giganteum,** Dietr. Gray, Man. Ed. V., 531.

P. latifolium, var. *commutatum,* Baker, Journ. Linn., Soc. XIV., 555, chiefly.

P. multiflorum, Hook., Fl. II., 176, in part.

Confined to western Ontario and westward. Dunning's farm, near Niagara, and at Amherstburgh, Detroit River, Ont.; also at Portage la Prairie, Man. (*Macoun.*) Vicinity of London, Ont., and in thickets at Emerson, Man. (*Burgess. Millman.*) Along the Saskatchewan. (*Hooker, Fl.*)

610. STREPTOPUS, Michx. Fl. I., 200. (TWISTED-STALK)

(2287.) **S. amplexifolius,** DC. Fl. Fran. III., 174.

S. distortus, Michx., Fl. I., 200. Hook., Fl. II., 173.

S. amplexicaulis, Poir. Baker, Journ. Linn., Soc. XIV., 591.

In cool ravines and deep shade, along mountain brooks; not common anywhere, but extending across the continent to Vancouver Island. Labrador. (*Butler.*) Windsor and Pictou, N.S. (*Sommers, Cat.*)

Shady ravines at Truro and Pirate's Cove, N.S.; also in a ravine at Whycocogmah, Cape Breton. (*Macoun.*) Kent and Northumberland Co's.; Campbellton; Lancaster; rather common at Salmon River, Tobique, and Bald Mountains, N.B. (*Fowler, Cat.*) Common on Anticosti and along the Gaspé coast, and on the slopes of Mount Albert, Q. (*Macoun.*) Mingan Islands, and Island of Orleans, St. Lawrence River. (*St. Cyr.*) Rivière du Loup, Q. (*Thomas.*) In great abundance in moist places in woods, Argenteuil Co., Q. (*D'Urban*) Damp woods, Nipigon, Pic and Current rivers, Lake Superior. (*Macoun.*) Grand Marais, Lake Superior, and up the Michipicotin River, north of the lake. (*R. Bell.*) Hilton, near Wiarton, Ont. (*J. Bell.*) Porcupine Mountain, Man. (*Macoun.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) South Kootanie Pass and Michel Creek, Rocky Mountains. (*Dawson.*) Common in wet thickets from Morley westward through the Rocky, and Selkirk mountains; not uncommon along mountain streams at Goldstream, Nanaimo, and Qualicum, Vancouver Island. (*Macoun.*) Yale, and in the mountains at Spence's Bridge, B. C. (*Fletcher.*) Fort Wrangel, Sitka. (*Meehan.*) Sitka and Ounalashka. (*Rothr. Alask*) From Newfoundland and Hudson Bay to the Rocky Mountains, and thence to the Columbia and north to Fort McLaughlin and Sitka. (*Hooker, Fl.*) Greenland. (*Lange.*)

(2288.) **S. roseus,** Michx., Fl. I., 201; Pursh, Fl. I., 232; Hook., Fl. II., 173.

Abundant in drier woods than the preceding, but scarce on the Pacific slope. Labrador. (*Butler.*) Windsor, Halifax, Pictou and Canso, Guysboro Co., N.S. (*Sommers, Cat.*) Very common in the northern counties; also in St. John and King's Co's., N.B. (*Fowler, Cat.*) Campbellton, N.B. (*Chalmers.*) In woods at Truro and Annapolis, N.S.; also at Salt Lake, Anticosti, and common in woods along the Gaspé coast. (*Macoun.*) Glenelg, Guysboro Co., N.S. (*Faribault*). Anticosti and at Ouatchechou, Q. (*St. Cyr.*) Woods at Rivière du Loup, Q. (*Thomas.*) Abundant in rocky woods, Argenteuil Co., Q. (*D'Urban.*) Ottawa. (*Fletcher, Fl. Ott.*) Common around Prescott, Ont. (*Billings.*) Kemptville, Ont. (*Porter.*) Common in low rich woods throughout central Ontario. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Rich woods, Parry Sound, Georgian Bay. (*Burgess.*) Owen Sound and Hilton, Ont. (*J. Bell.*) Opposite Gros Cap, Lake Superior, and up the Michipicotin River, north of the lake. (*R. Bell.*) Woods up the Kaministiqua and Dawson road, Port Arthur; also in woods, Nipigon River, Lake Superior. (*Macoun.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) South Kootanie Pass, Rocky Mountains, and on the Skagit River, B.C.

(*Dawson.*) Not observed in the Rocky Mountains, but detected in Beaver Creek valley, near the Selkirk summit. (*Macoun.*) Goose Creek Mountains, five miles from Keithly, Cariboo, B.C.; 5,800 feet alt. (*Bowman.*) Lake Lindeman, lat. 60°. (*Schwatka.*) From Lake Huron to the Saskatchewan, and on the North West coast from the Columbia to lat. 58°. (*Hooker, Fl.*)

611. SMILICINA, Desf. (FALSE SOLOMON'S SEAL)

(2289.) **S. stellata,** Desf. Pursh, Fl. I., 233; Hook., Fl. II., 176.
Convallaria stellata, Michx., Fl. I., 202.

Very common in low moist woods, along streams, and in meadows. Labrador. (*Butler.*) Pictou and Truro, N.S. (*Sommers, Cat.*) Common on St. Paul's Island, Magdalen Islands, and Newfoundland. (*McKay.*) Damp woods at Truro and Pirate's Cove, N.S. (*Macoun.*) Moist banks, Kouchibouguac; intervales, Salmon River; St. John River, Kennebeccasis; Petitcodiac; Cedar Brook, on the Tobique; Indian Falls, Nepisiquit River, N.B. (*Fowler, Cat.*) Metapediac, Restigouche Co., N.B. (*Chalmers.*) Salt Lake, Anticosti, and in the valley of the Ste. Anne des Monts River, Gaspé. (*Macoun.*) Island of Orleans and Mirgan River, St. Lawrence River. (*St. Cyr.*) Rivière du Loup, Q. (*Thomas.*) Savanne, near Montreal, 1821. (*Dr. Holmes.*) Montreal Mountain. (*Porter.*) On sand along the River Rouge, Argenteuil Co., Q. (*D'Urban.*) Dow's swamp and other localities at Ottawa. (*Fletcher, Fl. Ott*) Swamps and low intervales along streams, abundant in central Ontario. (*Macoun.*) Rare in woods at Prescott, Ont. (*Billings.*) Prince's Island near Hamilton, Ont. (*Logie.*) Mississaqui, Drummond, and Cockburn islands, Georgian Bay. (*J. Bell.*) Sandy thickets at Toronto, low woods at London, Ont.; Parry Sound, Georgian Bay, and in the Red River valley at Emerson, Man. (*Burgess.*) North shore of Lake Superior. (*Agassiz.*) Up the Kaministiqua River, west of Lake Superior. (*Macoun.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) Charlton Island, James Bay; Lake Winnipeg and eastward down the Severn River to Hudson Bay; also on Moose Mountain, Assiniboia. (*J. M. Macoun.*) In a thicket at Pembina Mountain, Man.; near Belly River and on the North Fork of Old Man River, Rocky Mountains. (*Dawson.*) In moist thickets on the Assiniboine, at Portage la Prairie and Brandon; abundant in moist meadows and grassy places from the vicinity of Morley through the Rocky Mountains to Donald in the Columbia valley. (*Macoun.*) From Lake Huron to the Saskatchewan, and from Hudson Bay to the Rocky Mountains. (*Hooker, Fl.*)

(2290.) **S. sessilifolia,** Nutt. in herb. Watson Proced. Am. Acad. XIV., 245 (1879).

S. stellata, Hook., Fl. II., 176, in part.
Tovaria sessilifolia, Baker, Journ. Linn., Soc. XIV., 566.

This species takes the place of *S. stellata* west of the Coast Range, as all our specimens from the west coast are of this species. Fraser River valley at Yale, B C.; also quite common in the valleys of rivers and along brooks, at Victoria, Cedar Hill, Goldstream and northward, Vancouver Island. (*Macoun.*) Near Victoria, Vancouver Island (*Fletcher.*) North West coast. (*Hooker, Fl.*)

(2291.) **S. racemosa,** Desf. Pursh, Fl. I., 233; Hook., Fl. II., 176, in part.

S. ciliata, Pursh, Fl. I., 232.
Convallaria racemosa, Michx., Fl. I., 202.

Rich woods, not infrequent. Dartmouth, Halifax, Bedford, Pictou and Truro, N.S. (*Sommers, Cat.*) Truro and Straits of Canso, N.S. (*Macoun.*) Bass River; Welsford; and Nerepis Valley, N. B. (*Fowler, Cat.*) Campbellton, N.B. (*Chalmers.*) Island of Orleans. (*St. Cyr.*) Gomin's woods, Quebec. (*Thomas.*) Montreal Mountain, 1821. (*Dr. Holmes.*) Abundant in rocky woods, Argenteuil Co., Q. (*D'Urban.*) McKay's bush and other localities near Ottawa. (*Fletcher, Fl. Ott.*) Common around Prescott, Ont. (*Billings.*) Kemptville, Ont. (*Porter.*) Common in rich woods throughout central Ontario. (*Macoun.*) In woods, mountain side west of Hamilton, Ont. (*Logie.*) Low woods at London; and Parry Sound, Georgian Bay. (*Burgess.*) Owen Sound, Hilton, Gore Bay, and McLeod's Harbor, Georgian Bay. (*J. Bell.*) Opposite Grand Island, Lake Superior. (*R. Bell.*) North shore of Lake Superior. (*Agassiz.*) Fifteen miles up the Kaministiqua River, west of Lake Superior. (*Macoun.*) Throughout Canada to the Saskatchewan. (*Hooker, Fl.*)

(2292.) **S. amplexicaulis,** Nutt. Journ. Philad. Acad. VII., 58.

S. racemosa, var. *amplexicaulis*, Watson. Macoun, Cat., No. 1843.
S. racemosa, Hook., Fl. II., 176, in part.
Tovaria racemosa, Baker, Journ. Linn., Soc. XIV., 570, in part.

Rather common in thickets and on beds of snow-slides, from Morley, in the Rocky Mountains, to the summit of the Selkirks. (*Macoun.*) Cypress Hills, Alberta. (*J. M. Macoun.*) Michel Creek, Flathead River, and Coldwater River, B.C. (*Dawson.*) North West coast. (*Hooker, Fl.*) Specimens from Goldstream and Nanaimo, Vancouver Island, although referred here, are exactly like eastern *S. racemosa.* All the leaves are more or less petioled, and had these specimens been found in the Atlantic provinces they would be referred to the preceding species.

Mr. Jas. Fletcher describes his specimens from Mt. Finlayson, Vancouver Island, as having much larger leaves, more plaited, and flower much more highly scented than eastern *racemosa*. (*Macoun.*)

(2293.) **S. trifolia,** Desf. Pursh, Fl. I., 233. Hook., Fl. II., 175.

Convallaria trifolia, Michx., Fl. I., 202.
Tovaria trifolia, Baker, Journ. Linn., Soc. XIV., 565.

Abundant in swamps and wet woods, from the Atlantic to the Pacific. Labrador. (*Butler.*) New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Windsor, N.S. (*How.*) Pictou, N.S. (*McKay.*) Swamps, near Halifax, N.S. (*Macoun & Burgess.*) Magdalen Islands, Gulf of St. Lawrence. (*J. Richardson.*) Kouchibouguac, and Hudson's Brook, Kent Co.; St. John Co., N.B. (*Fowler, Cat.*) Swamps, Dalhousie, N.B. (*Chalmers.*) Swamps, Salt Lake, Anticosti. (*Macoun.*) Mingan River and Island of Orleans, Q. (*St. Cyr.*) Swamps, Rivière du Loup, Q. (*Thomas.*) Summit of Mount Albert, Gaspé, Q.; and Kemptville, Ont. (*Porter.*) Dow's swamp and other peat bogs near Ottawa. (*Fletcher, Fl. Ott.*) Swamp north of Prescott, Ont. (*Billings.*) Cold peaty swamps throughout central Ontario. (*Macoun.*) Marsh at Millgrove, near Hamilton, Ont. (*Logie.*) Peat bogs, London, and Blenheim, Ont. (*Burgess.*) Bruce Mines, Hilton, Thompson Point, Gore Bay, and McLeod's Harbor, Georgian Bay. (*J. Bell.*) Swamps at Owen Sound and west of Thunder Bay, and around Lake Nipigon, Ont. (*Macoun.*) Missinaibi River, Ont.; Lake Mistassini and down the Rupert River, N.E.T.; Lake Winnipeg and eastward down the Severn, Keewatin. (*J. M. Macoun.*) Opposite Gros Cap, Lake Superior; Nelson River and Oxford House, Keewatin. (*R. Bell.*) Observed in a spruce swamp at the Kananaskis, Rocky Mountains. (*Macoun.*) Swamps throughout Canada, to Bear Lake and the Rocky Mountains. (*Hooker, Fl.*)

612. MAIANTHEMUM, Wiggers. ("LILY OF THE VALLEY")

(2294.) **M. Canadense,** Desf. Watson, Proced. Am. Acad. XIV. 247.

Smilicina bifolia, Roem. Hook., Fl. II., 176, in part.
S. Canadense, Pursh, Fl. I., 233.
S. bifolia, var. *Canadensis,* Gray. Man., Ed. V., 530.
Convallaria bifolia, Michx., Fl. I., 201.

On dry hummocks and in cool woods, from the Atlantic to the Rocky Mountains. Labrador. (*Butler.*) Brigus, Newfoundland. (*R. Bell.*) New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Pictou, N.S. (*McKay.*) Truro, N.S. (*Chambers. Macoun.*) New Harbor, Guysboro Co., N.S. (*Faribault.*) Magdalen Islands, Gulf of

St. Lawrence. (*J. Richardson.*) Truro, Halifax and Canso, N.S. (*Macoun & Burgess.*) Very common throughout New Brunswick. (*Fowler, Cat.*) Campbellton, N.B. (*Chalmers.*) Woods, Salt Lake, Anticosti; and along the whole peninsula of Gaspé, Q. (*Macoun.*) Ouatchechou, Champlain Co., and Island of Orleans, Q. (*St. Cyr.*) Rich woods, common at Rivière du Loup, Q. (*Thomas.*) Montreal Mountain, 1821. (*Dr. Holmes.*) Abundant in all woods near Ottawa. (*Fletcher, Fl. Ott.*) Woods, common at Prescott, Ont. (*Billings.*) Kemptville, Ont. (*Porter.*) Very abundant in cool woods in central Ontario. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Rich woods at London, Ont. (*Burgess. Millman.*) Mississagui Island and Cockburn Island, Georgian Bay. (*J. Bell.*) Woods at Owen Sound; Nipigon Lake and River, and around the west side of Lake Superior; and westward to Brandon, on the Assiniboine, Man. (*Macoun.*) Emerson, Man. (*Burgess. Millman.*) Lake Mistassini, N.E.T., and down the Rupert River to James Bay; Missinaibi River, Ont.; Lake Winnipeg and eastward down the Severn River. (*J. M. Macoun.*) Opposite Gros Cap, Lake Superior; north end of Lake Winnipeg and down the Nelson River, and at Oxford House, Keewatin. (*R. Bell.*) Sitka. (*Meehan.*) Throughout Canada to Bear Lake, and from Hudson Bay and Newfoundland to the Rocky Mountains. (*Hooker, Fl.*)

(2295.) **M. bifolium,** D.C. var. **dilatatum,** Wood. Proced. Phil. Acad. 174, (1868.)

Smilicina bifolia, Hook., Fl. II., 176, in part.

Apparently confined to the west coast of America. Queen Charlotte Islands, B.C. (*Dawson.*) Common in low woods along small streams at Cedar Hill, Goldstream, Beacon Hill and Oak Bay, near Victoria; Nanaimo and Qualicum, and in the woods generally around Mount Arrowsmith, Vancouver Island. (*Macoun.*) Fort Wrangel, Sitka. (*Meehan.*) Fort Simpson and Sitka, on the North-west coast. (*Hooker, Fl.*)

613. HEMEROCALLIS, Linn. Gen. 433. (DAY LILY)

(2296.) **H.** FULVA, Linn. Gray, Man. Ed. V., 535.

Occasionally escapes from gardens, in New Brunswick. (*Fowler, Cat.*) Waste places at Belleville, Ont. (*Macoun.*) Quebec. (*St. Cyr.*) Waste places, near London; rare. (*Burgess. Millman.*)

614. BRODIÆA, Smith. Trans. Linn. Soc. X., 2.

(2297.) **B. grandiflora,** Smith. Hook., Fl. II., 186.

Milla maritima, Macoun, Cat., No. 1869.

On sandy, rocky, or gravelly soil, in the oak openings. Close to the sea, on Fuller's farm, at Oak Bay; and in numerous places on rocky soil around Victoria and Cedar Hill; abundant on ledges above Departure Bay, and near the Half-way House, Nanaimo, Vancouver Island. (*Macoun.*) Cedar Hill, near Victoria, B.C. (*Meehan. Fletcher.*) North West America and New Georgia. (*Hooker, Fl.*)

(2298.) **B. Douglasii,** Watson. Proced. Am. Acad. XIV., 237.

Triteleia grandiflora, Lindl. Hook., Fl. II., 186.
Milla grandiflora, Baker. Journ. Linn. Soc.; Macoun, Cat., No. 1870.

In deep sand or in crevices of rocks; rare. Close to the sea at Oak Bay. (*Macoun.*) Cedar Hill, near Victoria, Vancouver Island. (*Fletcher.*)

(2299.) **B. lactea,** Watson. Proced. Am. Acad. XIV., 238.

B. grandiflora, Pursh, Fl. I., 223.
Hesperoscordon Leuisii, Hook., Fl. II., 185.
Milla hyacinthina, Baker. Macoun, Cat. No. 1871.

Abundant by roadsides, along the borders of fields, by lakes, amongst gravel, and on sand by the sea coast, from the vicinity of Victoria to Nanaimo, Qualicum and Alberni, Vancouver Island. (*Macoun.*) Vicinity of Victoria, Vancouver Island. (*Meehan. Fletcher.*) North West America. (*Hooker, Fl.*)

615. ALLIUM, Linn. Gen. 409. (ONION, GARLIC)

(2300.) **A. tricoccum,** Ait. Pursh, Fl. I., 223.

A. triflorum, Pursh, Fl. I., 223.
A. cernuum, Hook., Fl. II., 184.

Not very widely distributed but common in Ontario and western Quebec, Hampton and Petitcodiac; Eel River, Carleton Co., N.B. (*Fowler, Cat.*) Abundant in moist places in woods, Argenteuil Co., Q. (*D'Urban.*) McKay's woods and other places at Ottawa. (*Fletcher, Fl. Ott.*) Common in woods at Prescott, Ont. (*Billings.*) Abundant

in central Ontario. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Rich woods, London, Ont. (*Burgess. Millman.*) Abundant in woods, Owen Sound, Ont. (*Macoun. J. Bell.*) Batch-ah-wah-nah River, Lake Superior. (*R. Bell.*) Lake Erie. (*Hooker, Fl.*)

(2301.) **A. Schœnoprasum,** Linn. Hook., Fl. II., 185.

Not uncommon in crevices of rocks along lakes and rivers. Newfoundland. (*Dr. Morrison.*) In beautiful clumps, with very bright flowers, in meadows near the sea at Yarmouth, N.S.; in the debris of Jupiter River, Anticosti. (*Macoun.*) Pabineau Falls on the Nepisiquit and Rothesay; Nauwigewauk; very common along the Upper St. John, Tobique and Eel Rivers; Indian Falls of Nepisiquit; Hammond River, N.B. (*Fowler, Cat.*) Bathurst, N.B. (*McGill Coll. Herb.*) Island of Orleans. (*St. Cyr.*) North shore of Lake Superior. (*Agassiz.*) Wet gravelly shore, Port Arthur, Lake Superior. (*Burgess.*) East coast of Lake Nipigon, Current River, Thunder Bay, and east coast of Lake Superior. (*Macoun.*) Missinaibi River, Ont., and Severn River, Keewatin. (*J. M. Macoun.*) Milk River flats, 49th parallel. (*Millman.*) River bank, Belly River, N. W. T. (*Burgess.*) Summit of Kootanie Pass, Rocky Mountains, and Flathead River, B.C. (*Dawson.*) Rather common along the Bow River, from Morley westward to Laggan, thence along the Kicking Horse River to Donald, in the Columbia valley, B.C. (*Macoun.*) Port Clarence, Norton and Kotzebue sounds, and rapids of the Yukon. (*Rothr. Alask.*) Francis River, lat. 61°, and Yukon River, lat. 63° (*Dawson.*) Throughout the wooded country to Bear Lake, and to the prairies of the Rocky Mountains. (*Hooker, Fl.*)

(2302.) **A. cernuum,** Roth. Pursh, Fl. II., 732; Hook., Fl. II., 184.
A. stellatum, Hook., Fl. II, 184, in part.

Abundant in the western part of the prairie region, and westward to Vancouver Island. Low open prairie, Turtle Mountain and Short Creek, Man. (*Burgess.*) Souris River, Man. (*Millman.*) Lake of the woods; West Butte, 49th parallel; South Kootanie Pass, Wild Horse Creek, Kootanie Valley, North Fork of Old Man River, Rocky Mountains; Gatcho Lake, B.C. (*Dawson.*) Blackfoot Crossing, Bow River, Alberta; near Dunvegan, Peace River, lat. 56°; rather common on grassy slopes from Morley westward to Castle Mountain and thence to the Columbia valley at Donald, where it is abundant; on dry slopes at Spence's Bridge, and Lytton, B. C.; grassy places near Victoria; on the slopes of Mount Finlayson; woods near Departure Bay; very abundant at Qualicum and Alberni, and along mountain slopes, Vancouver Island. (*Macoun.*) Nootka, where the bulbs are used as an esculent. (*Hooker, Fl.*)

(2303.) **A. Canadense,** Kalm. Michx., Fl. I., 194; Pursh, Fl. I., 223; Hook., Fl. II., 185.

Along river banks, rather rare. Montreal Island, above Nun's Island, 1821. (*Dr. Holmes.*) Along the Moira, at the paper mill, Belleville, Hastings Co.; Meyer's Island, in the Trent, above Meyersburg, Northumberland Co.; Massassaga Point, Bay of Quinte, Prince Edward Co.; Colchester, Essex Co., Ont. (*Macoun.*) River bank, London, Ont. (*Burgess. Millman.*)

(2304.) **A. reticulatum,** Fraser. Hook., Fl. II., 184.

A. angulosum, Pursh, Fl. I., 223.

Rather common on dry gravelly slopes in some parts of the prairie region. Open prairie, Turtle Mountain, Man. (*Burgess. Millman.*) Moose Jaw Creek, Assiniboia. (*J. M. Macoun.*) Abundant on gravel ridges and slopes along the Assiniboine River, at Brandon, and on ridges along the Qu'Appelle Valley, near Fort Ellice, Man. (*Macoun.*) Badger Coulee, 49th parallel, and Milk River Ridge, Alberta. (*Dawson.*) Common on a gravelly hillside, Stoney Reserve, Morley, Rocky Mountains. (*Macoun.*) Wooded country, especially about Carleton House, Saskatchewan River. (*Hooker, Fl.*)

(2305.) **A. Geyeri,** Watson. Proced. Am. Acad., Vol. VI., 229.

A. reticulatum, Var. *β.* Watson, Bot. King's Rep., V., 486.

A few poor specimens of this were gathered near Beacon Hill, Victoria, Vancouver Island, in 1875, and referred to *A. reticulatum.* Fine fruiting specimens were observed at Oak Bay, near the same place, 1887. (*Macoun.*) Cadboro Bay, near Victoria, 1885. (*Fletcher.*)

(2306.) **A. acuminatum,** Hook., Fl. II., 184.

A very beautiful and common species in numerous localities in the southern part of Vancouver Island. On dry ground near Victoria. (*Fletcher. Meehan.*) Yale, B.C. (*J. A. Hill.*) Abundant on rocks around Cedar Hill; at Mount Finlayson, and along the coast from Victoria to Nanaimo, where it is common; on dry ledges near Departure Bay, at Qualicum and on the rocks along the Alberni canal, on the west coast. (*Macoun.*) Mary Island, Gulf of Georgia. (*Dawson.*) Plentiful at Nootka Sound. (*Hooker, Fl.*)

(2307.) **A. stellatum,** Fraser. Hook., Fl. II., 184, in part.

A rather rare and obscure species, occasionally recorded from the prairie region. Rat Portage, Ont. (*Prof. Fowler.*) On the prairie south of the Touchwood Hills, at Pheasant Mountain and on the

Cypress Hills, Alberta. (*Macoun.*) High Bluff, Man. (*McGill Coll. Herb.*) Plains of the Saskatchewan. (*Hooker, Fl.*) Boston Bar, below Lytton, B.C. (*Fletcher.*) Spence's Bridge, B.C. (*A. J. Hill.*)

(2308.) **A. Nevii,** Watson. Proced. Am. Acad., Vol. VI., 231.
A. reticulatum, Hook., Fl. II., 184, in part.

Abundant in a few localities. This species throws up leaves early in spring, but does not flower until after the middle of June, when it is in perfection. Abundant in a field near the base of Cedar Hill, and in some profusion on rocky ground near Cloverdale, close to Victoria; common on rocky ledges, at the Half Way House, four miles from Nanaimo, Vancouver Island. (*Macoun.*) Nootka. (*Hooker, Fl.*)

(2309.) **A. Vancouverense.**

Abundant on the summit of Mount Arrowsmith, alt. 5,976 feet. It grows in crevices of rocks and bursts into flower as soon as the snow disappears; July 17th, 1887. Dr. Watson, to whom this species has been submitted, believes it to be new. The bulbs have been planted at our Experimental Farm, and the species will be fully described next year. The specimens obtained were too young for correct determination but the species is near *A. falcifolium.*

616. CAMASSIA, Lindl. (CAMASS)

(2310.) **C. Fraseri,** Torr. Pacif. R. Rep., IV., 147.
Scilla Fraseri, Gray, Man., Ed. V., 533.

Apparently rare in Ontario. White Island, in the Detroit River, opposite Amherstburgh, 1882. (*Macoun.*)

(2311.) **C. esculenta,** Lindl. Hook., Fl. II., 186.
Phalangium Quamash, Pursh, Fl. I., 226.

Very abundant in all rich soils, and even in cultivated fields and meadows, throughout the southern part of Vancouver Island. It becomes less common as the oak disappears, but at Qualicum and Alberni it is still in profusion in open spots. (*Macoun. Fletcher. Dawson.*) North West America. (*Hooker, Fl.*) By following the plough in the autumn, when the stubble is being turned over, many fine bulbs can be collected. It is not so much eaten now as formerly, as the Indians have better food since the advent of the whites.

(2312.) **C. Leichtlinii,** Watson. Proced. Am. Acad. Vol. XII., 376,
C. esculenta, var. *Leichtlinii*, Baker. Bot. Mag., t. 6287.
C. esculenta, var *β. floribus albus*, Hook., Fl. II., 186
Chlorogalum Leichtlinii, Baker, Gard. Chron., 689, (1874.)

Occasionally met with, growing in company with the preceding

species. On King's Farm, at Cedar Hill, near Victoria, Vancouver Island. (*Macoun.*) Vicinity of Victoria, 1884. (*Fletcher. Hill.*) The specimens referred here are exactly like those of Suksdorf, upon which the species was founded by Watson. We have both white and blue flowered specimens.

617. LILIUM, Linn. Gen. 410. (LILY)

(2313.) **L. Philadelphicum,** Linn. Hook., Fl. II., 181; Pursh, Fl. I., 229.

L. umbellatum, Pursh, Fl. I., 229.

Rather common in western Ontario, but more so throughout the prairie region. McKay's woods and other localities near Ottawa. (*Fletcher, Fl. Ott.*) Thickets near the Grand Trunk gravel pit, at Prescott, Ont. (*Billings.*) On gravel banks and ridges, and along the rocky banks of rivers, and over the whole extent of Rice Lake Plains, Ont. (*Macoun.*) East Flamboro, near Hamilton, Ont. (*Logie.*) Sandy woodlands near London; Point Aux Pins, Lake Erie, Ont. (*Burgess.*) Cockburn Island, Georgian Bay. (*J. Bell.*) Very abundant along the north shore of Lake Superior, on exposed rocks, and along Poplar River, Lake Nipigon. (*Macoun.*) Down the Missinaibi River to Moose Factory, James Bay. (*J. M. Macoun.*) Nelson River, and at Oxford House, Keewatin. (*R. Bell.*) Open prairie at Emerson, Man. (*Burgess.*) Red River, Man., plentiful; near Pincher Creek, and between the north and middle fork of the Old Man River, foot-hills, Rocky Mountains. (*Dawson.*) Portage la Prairie, Man. (*McGill Coll. Herb.*) Calgary, Alberta. (*St. Cyr.*) Abundant on the prairies from Winnipeg to Moose Jaw, and westward to Canmore, in the Rocky Mountains, appearing again at Donald, in the Columbia Valley, B.C. (*Macoun.*) Neighborhood of Calgary. (*Prof. Fowler.*) Portage la Loche, lat. 57°. (*Back.*) Lake Huron and throughout Canada to the Saskatchewan and prairies of the Rocky Mountains. (*Hooker, Fl.*)

Var. ——— ?

Probably an albino, petals pale yellow, not spotted; more narrowly lanceolate with longer claws. Near Turtle Mountain, on the open prairie, 49th parallel; rare. (*Dawson.*) Badger Creek, Man. (*Burgess.*)

(2314.) **L. Canadense,** Linn. Hook., Fl. II., 181; Pursh, Fl. I., 229; Michx., Fl. I., 198.

L. pardalinum, var. *Bourgæi,* Baker. Journ. Linn. Soc., XIV., 242.

Common eastward, but rather rare to the west. Not uncommon, Pictou Co., N. S., and Cape Breton. (*McKay.*) Truro and Col-

chester, N.S.; Whycocogmah, Cape Breton. (*Sommers, Cat.*) Low meadows between New Glasgow and Port Mulgrave, N.S.; in low intervales at Whycocogmah, Cape Breton. (*Macoun.*) Common in meadows at Caledonia, Guysboro Co., N.S. (*Faribault.*) Bathurst, N.B. (*McGill Coll. Herb.*) Common on intervales and moist meadows, New Brunswick. (*Fowler, Cat.*) On the flats along the lower part of the Metapedia River, Q. (*Macoun.*) St. Anne de la Pérade, Q. (*St. Cyr.*) Beauport, near Quebec. (*Thomas.*) Laprairie, near Montreal, 1821. (*Dr. Holmes.*) In meadows along the Grand Trunk Railway, between Cobourg and Port Hope, Ont. (*Macoun.*) Low shady place at London and Blenheim, Ont.; very common. (*Burgess.*) Right bank of Rainy River, below Fort Francis, 1872. (*Macoun.*)

(2315) **L. Carolinianum,** Michx. Fl. I., 197.

L. Canadense, var. *superbum*, Elwes., Mon. Lil. t. 21.

L. superbum, Linn. Hook., Fl. II., 181; Pursh, Fl. I., 230; Macoun Cat., No. 1853.

Rich low grounds, western Ontario. Vicinity of Hamilton, Ont. (*Logie.*) Moist grounds half a mile west of London, Ont. (*Saunders.*) A specimen in our herbarium, collected by Dr. Burgess, near London, in 1879, approaches this species very closely, both in its revolute perianth and almost perfectly smooth leaves. Mr. James Fletcher, botanist to the Experimental Farm at Ottawa, has grown *Lilium Carolinianum* from bulbs purchased in the United States, together with the form here referred to, L. *Carolinianum*. He believes that our own form is different from both L. *Carolinianum* and L. *Canadense* and suggests that Elwes' name should belong to it. It is extremely probable that his view is the correct one.

(2316.) **L. Columbianum;** Hanson. Baker, Linn. Soc. Journ., XIV., 243.

L. Canadense, var. *parviflorum*, Hook., Fl. II., 181.

L. parvum, Kell. Macoun, Cat. No. 1854.

L. Philadelphicum, var. *β.* Hook., Fl. II., 181.

Abundant in some localities; generally on dry gravelly soil. Whipsaw Creek, B.C. (*Dawson.*) Very common at Victoria, Vancouver Island, (*J. Richardson. Fletcher.*) On gravelly soil throughout the oak openings in the southern part of Vancouver Island; common at Nanaimo and near the Wellington Mines; on old sea beaches of gravel and shells at Qualicum, at Horne Lake, in the interior, and Alberni on the west coast. (*Macoun.*)

618. FRITILLARIA, Linn. Gen. 411. (FRITILLARIA)

(2317) **F. Kamtschatcensis,** Ker. Hook., Fl. II., 181.

The specimens referred here are much taller and stouter than the next species, and, as far as I am aware, are confined to the proximity of the sea. The number of flowers varies from two to four, and they are usually of a dull purple. The first whorl of leaves is generally four, but the next usually has five. Abundant on grassy banks within the influence of spring tides at the mouth of the Nanaimo River, a little below the new bridge; occasional specimens at Gordon Head, four miles from Victoria, Vancouver Island. (*Macoun.*) Vicinity of Victoria, 1876. (*Dawson.*) Sitka, Ounalashka, and Cape Prince of Wales. (*Rothr. Alask.*) North-west coast, on the beach; Observatory Inlet to Stikine River. (*Hooker, Fl.*)

(2318.) **F. lanceolata,** Pursh, Fl. I., 230; Hook., Fl. II., 181.

Very abundant on dry gravelly soil in some localities on the West Coast. Above Lytton, on the Fraser River, B.C. (*Dawson.*) In profusion at Cedar Hill. near Victoria, Vancouver Island. (*Fletcher.*) Very common throughout the oak woods and rocky, mountainous places from Victoria to Nanaimo and north to Qualicum, where it is especially abundant near the sea; and across the island to Alberni. (*Macoun.*) Nootka Sound. (*Menzies.*)

Var. **floribunda,** Benth. On dry ground, King's Farm, and at Cadboro Bay, near Victoria, Vancouver Island. (*Fletcher.*)

(2319. **F. pudica,** Spreng. Hook., Fl. II., 182.

Lilium (?) pudicum, Pursh, Fl. I., 228.

Not uncommon at Fort McLeod and Lethbridge, Alberta. The only known stations east of the Rocky Mountains. (*N. H. Cowdry.*) Apparently very rare in British Columbia. Collected on the mountain slopes along the Thompson River, at Lytton, B.C. (*Macoun.*) In abundance, with *Calochortus macrocarpus,* on the slope opposite Lytton station, and at Spence's Bridge, B.C. (*Fletcher.*)

619. ERYTHRONIUM, Gen. 414. Linn. (DOG'S TOOTH VIOLET)

(2320.) **E. Americanum,** Smith. Hook., Fl. II., 182.

E. Dens-canis, Michx., Fl. 198.
E. lanceolatum, Pursh, Fl. I., 230.

Very abundant in rich woods throughout Ontario. Not common at Pictou, N.S. (*McKay.*) Colchester Co., N.S. (*Sommers, Cat.*) Hudson's Brook, Kent Co.; abundant at Fredericton; near St. John and at Norton, on the Kennebeccasis, N.B. (*Fowler, Cat.*) Bathurst, N.B. (*McGill Coll. Herb.*) Sillery, Q. (*St. Cyr.*) Abundant in rich woods, Rivière du Loup, Q. (*Thomas.*) Common along the Rouge River, Argenteuil Co., Q. (*D'Urban.*) Montreal Mountain, 1821. (*Dr. Holmes.*) Very common around Ottawa. (*Fletcher, Fl. Ott.*) Rich woods, common at Prescott, Ont. (*Billings.*) Very common in woods throughout central Ontario. (*Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*) Rich woods, London, Ont. Parry Sound, Georgian Bay. (*Burgess.*) Woods, Owen Sound, Ont. (*Macoun.*)

(2321.) **E. albidum,** Nutt. Gen. I., 223.

Apparently rare in Ontario. Abundant in a rich low wood, two miles east of Belleville, between the Grand Trunk Railway and the Bay of Quinte, 1878. (*Macoun.*) Steep clay banks of river at "The Cove" London, Ont. (*Burgess.*)

(2322.) **E. propullans,** Gray, Amer. Nat. V., 298.

In rich, deep soil, on the farm of George Casey, M.P., near Fingal, Elgin Co., Ont., 1882. (*Macoun.*)

(2323.) **E. grandiflorum,** Var. (?) **albiflorum.** Hook. Fl. II., 182.

Very abundant in rich woods, and in crevices of rocks, and on old sea beaches throughout the whole southern part of Vancouver Island. A remarkably fine species and well worthy of cultivation. (*Macoun.*) Vicinity of Victoria. (*Fletcher. Hill.*)

Var. (?) **Smithii.** Hook., Fl. II., 182.

E. revolutum, Smith in Rees. Cycl.
E. grandiflorum, var. *revolutum,* Baker, Journ. Linn. Soc. XIV., 296.

Gathered by Menzies on Vancouver Island. Not lately detected unless this may be var. *albiflorum,* which turns pinkish in drying if young specimens are taken.

Var. **giganteum,** Hook., Fl. II., 182.

Summit of Coast Range, near the Fraser River, B.C., 1877. Stems, three to four flowered. (*Dawson.*) Harrison Lake, B.C. (*Burgess, Herb.*) Flowers, large bright yellow.

Var. (?) **minor,** Morren. Belg. Hort. XXVI., 109.

The specimens referred here are all from high mountain summits, generally one flowered and bright yellow. In moist thickets South Kootanie Pass, 1831, and on the western summit of the North Kootanie Pass, Rocky Mountains, (*Dawson.*) On the summit of Hope Mountain, B.C. (*J. Tolmie.*) Goose Creek Mountains, Cariboo, B.C., 6,000 feet alt. (*Bowman.*) In abundance on mountains around Kicking Horse Lake, and on the beds of snow-slides, passing up to the limit of perpetual snow; in great profusion at the summit of the Selkirks, close to the melting snow, Aug. 24th, 1885; abundant on the summit of Mount Benson, alt. 3,363 feet; occasional specimens on Mount Arrowsmith, alt. 5,500 feet, Vancouver Island. (*Macoun.*)

620. LLOYDIA, Salisb.

(2324.) **L. serotina,** Reichenb. Watson, Proced. Am. Acad., XIV., 261.

Anthericum serotinum, Linn. Hook., Fl. II., 183.

St. Lawrence and Ounalashka islands, Cape Lisburne and Kotzebue Sound. (*Rothr. Alask.*) Northern Arctic coast. (*Dr. Richardson.*)

621. CALOCHORTUS, Pursh, Fl. I., 240.

(2325.) **C. elegans,** Pursh, var. **nanus,** Wood. Proc. Phil. Acad. 168 (1868).

C. elegans, Hook., Fl. II., 183; Macoun, Cat. No. 1873.
C. Lyallii, Baker, Journ. Linn. Soc. XIV., 305.
C. elegans, var. *minor,* Hook., Fl. II., 183.

Summit of the South Kootanie and Crow Nest passes, Rocky Mountains. (*Dawson.*) Recesses of the Rocky Mountains, near the region of perpetual snow. (*Douglas.*)

(2326.) **C. macrocarpus,** Dougl. Hook., Fl. II., 183.

Dry, gravelly soil on the mountains above Lytton, B.C. (*Macoun.*) Very fine specimens at Kamloops, B.C. (*Prof. Fowler.*) Similkameen River; near Wild Horse Creek, Kootanie Valley, B.C. (*Dawson.*) Abundant at Lytton, Spence's Bridge, and Kamloops, B.C. (*Fletcher.*)

622. CHAMÆLIRIUM, Willd. (DEVIL'S BIT)

(2327.) **C. Carolinianum,** Willd. Watson, Proc. Am. Acad, VI., 282.

C. luteum, Gray, Man. Ed. V., 527.
Helonias dioica, Pursh, Fl. I., 243.

In swamps near Mount Pleasant, Ont. (*Burgess.*) Canada. (*Gray, Man.*)

623. XEROPHYLLUM, Mx. Fl. I., 210. (XEROPHYLLUM)

(2328.) **X. tenax,** Nutt. Watson, Proced. Am. Acad. XIV., 284.

Helonias tenax, Pursh, Fl. I., 243.

South Kootanie Pass, Rocky Mountains, 49th parallel. Abundant and past flowering in the lower valleys, but still flowering at 6,000 feet alt., on Aug. 17th, 1874. Crow Nest Pass, 1883. (*Dawson.*)

624. TOFIELDIA, Huds. (FALSE ASPHODEL)

(2329.) **T. borealis,** Wahlenb. Fl. Lapp., 169.

T. palustris, Huds. Hook., Fl. II., 179.
T. pusilla, Pursh, Fl. I., 246.
Narthecium pusillum, Michx., Fl. I., 209.

Peat bogs and on rocks along the sea or large lakes. Ford's Harbor, Labrador. (*R. Bell.*) Low grounds and peat bogs, Salt Lake, Anticosti. (*Macoun.*) Mingan Islands, River St. Lawrence. (*St. Cyr.*) Lake Mistassini. (*Michaux.*) Lake Mistassini and down the Rupert River to James Bay, and northward on all the islands in James Bay to Cape Jones; Missinaibi River, Ont., and north to Moose Factory. (*J. M. Macoun.*) Hill-River and mouth of Churchill River, Hudson Bay. (*R. Bell.*) North shore of Lake Superior. (*Agassiz.*) Rather rare in the Rocky Mountains, at Castle Mountain and Mount Stephen, but abundant at Donald, in the valley of the Wait-a-bit. (*Macoun.*) Great Slave Lake; Ungava, Hudson Strait. (*McGill Coll. Herb.*) Mossy soil, Kingnite, Cumberland Gulf, Cape Searle, and Scott's Bay, west side of Baffin's Bay. (*J. Taylor.*) Between the Mackenzie River and Baffin's Bay. Smith's Sound and Greenland. (*Hooker, Arct. Pl.*) From Labrador and Hudson Bay to Bear Lake River; and west to the Rocky Mountains. (*Hooker, Fl.*) Greenland. (*Lange.*)

(2330.) **T. coccinea,** Rich. Hook. Fl. II., 179.

Barren ground from lat. 64° to the shores of the Arctic sea; about Jasper's Lake, in the Rocky Mountains, and on the west coast, north of lat. 58°, to Ounalashka. (*Hooker, Fl.*) Kotzebue Sound, Chamisso Island, and Cape Lisburne. (*Rothr. Alask.*) North east coast of America. (*Hooker, Arct. Pl.*)

Var. **major,** Hook., Fl. II., 179.

Mackenzie River. (*Richardson.*) Only two specimens of this variety have been gathered, and the writer has seen no specimens of either form.

(2331.) **T. glutinosa,** Willd. Pursh, Fl. I., 246; Hook., Fl. II., 179.
Narthecium glutinosum, Michx., Fl. I., 210.

Cold bogs and borders of mountain lakes and rivers. Flat lands, Restigouche Co.; along the Upper St. John, Eel and Tobique rivers, N.B. (*Fowler, Cat.*) Salt Lake, and in peat bogs, Anticosti. (*Macoun.*) Mingan Islands, St. Lawrence River. (*St. Cyr.*) Quebec, Island of Orleans. (*Thomas.*) Cleghorn's, Quebec, 1821. (*Dr. Holmes.*) Shore of Georgian Bay at Collingwood. (*Logie.*) Fairview Harbor, Drummond Island, Thompson Point and McLeod Harbor, Georgian Bay. (*J. Bell.*) Wet gravelly river flat, Southampton, Ont. (*Burgess.*) North shore of Lake Superior. (*Agassiz.*) Shore of Lake Huron at Red Bay; Livingstone Point, Lake Nipigon, along the shores of Thunder Bay, and the east coast of Lake Superior. (*Macoun.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) On the Athabasca river near Fort Assiniboine; Bow River valley, from Calgary westward to Hector at the summit of the Rocky Mountains; abundant around Horne Lake and on the summit of Mount Arrowsmith, Vancouver Island. (*Macoun.*) Rocky Mountains, 49th parallel. (*Dawson.*) Sitka. (*Rothr. Alask.*) Bartlett Bay, Alaska. (*Meehan.*) From Hudson Bay to Bear Lake, and to the Rocky Mountains. (*Hooker, Fl.*)

(2332.) **T. occidentalis,** Watson. Proc. Am. Acad., XIV., 283.

In boggy ground, Beaver Creek valley, near Roger's Pass, Selkirk Mountains, 1885. (*Macoun.*) Easily distinguished from *T. glutinosa* by the long sepals and pedicels which are twice as long in each case.

625. UVULARIA, Linn. Gen. 412. (BELL-WORT.)

(2333.) **U. perfoliata,** Linn. Hook., Fl. II., 174; Pursh, Fl. I., 231.
U. perfoliata, var. *minor,* Michx., Fl. I., 199.

Rich woods, but of doubtful occurrence in Canada. The references

given below are quoted from authorities, but specimens have not been examined. Woods near Prescott, Ont. (*Billings.*) Vicinity of Hamilton, Ont. (*Logie.*)

(2334.) **U. grandiflora,** Smith. Pursh, Fl. I., 231; Hook., Fl. II., 174.
U. perfoliata, var. *major,* Michx., Fl. I., 199.

Rich woods, common in many parts of Quebec and Ontario. Batiscan, Q. (*St. Cyr.*) Gomin's Woods, Quebec. (*Thomas.*) Abundant by roadsides in newly cleared parts of Grenville, Argenteuil Co., Q. (*D'Urban.*) Papineau Road, near Montreal, 1821. (*Dr. Holmes.*) Abundant in the neighborhood of Ottawa. (*Fletcher, Fl. Ott.*) Very abundant in central Ontario. (*Macoun.*) Low rich woods, London, Ont. (*Burgess.*) Woods at Owen Sound, Ont. (*Macoun.*) Lake Huron. (*Hooker, Fl.*)

(2335.) **U. sessilifolia,** Linn. Hook. Fl. II., 175; Pursh, Fl. I., 233.
Oakesia sessilifolia, Watson. Proced. Am. Acad., XIV., 269.

Rich woods, but chiefly in Quebec and New Brunswick. Near Truro, N.S. (*Chambers.*) Truro, and North Woods Annapolis, N.S. (*Macoun & Burgess.*) St. John, and King's Co's.; Lily Lake; Kouchibouguac and Grand Lake, N.B. (*Fowler, Cat.*) Ste. Anne de la Pèrade, Q. (*St. Cyr.*) Papineau Road, near Montreal, 1821. (*Dr. Holmes.*) Quite common in rich woods around Ottawa. (*Fletcher, Fl. Ott.*) Miriwin's Woods, near Prescott, Ont. (*Billings.*) New Brunswick. (*Hooker, Fl.*)

626. DISPORUM, Salisb. in Trans. Hort. Soc. I., 331.

(2336.) **D. Menziesii,** Don.
Uvularia Smithii, Hook., Fl. II., 17[illegible].
Prosartes Menziesii, Don. Linn., Trans. XVIII., 533.

We have never seen Canadian specimens of this species, but Dr. Watson gives its range "from California to British Columbia." Nootka Sound, Vancouver Island. (*Hooker, Fl.*)

(2337.) **D. lanuginosa,** Don.
Prosartes lanuginosa, Don. Macoun, Cat. No. 1836; Gray, Man. Ed. V., 528, (1868).
Uvularia lanuginosa, Pursh. Hook., Fl. 174, in part.
Streptopus lanuginosus, Pursh, Fl. I., 232; Michx., Fl. I., 201.

Rich woods, western Ontario. Woods near Hamilton, Ont. (*Logie.*)

Rich woods, Norfolk Co., Ont. (*Dr. Nichol.*) Port Dover Junction, Elgin Co., Ont., 1882. (*Macoun.*) Shaded banks, London, Ont. (*Millman. Burgess.*)

(2338.) **D. trachycarpa,** Watson.

Prosartes trachycarpa, Watson. Rep. King's Exp. V., 344; Macoun, Cat. No. 1835.

Uvularia puberula, Rich., App. 10.

U. lanuginosa, Pers. Hook., Fl. II., 174, in part.

U. lanuginosa, var, *major*, Hook., Fl. II., 174.

Generally found in poplar and willow thickets throughout the prairie region. Slopes of the South Kootanie Pass, Rocky Mountains. (*Dawson.*) Thickets along the Cypress Hills, N.W.T. (*J. M. Macoun.*) Not uncommon at Manitoba House, Lake Manitoba; on slopes of the Porcupine Mountains; sand hills at the source of the Qu'Appelle; rather common in the foot-hills of the Rocky Mountains and westward to Kananaskis station. (*Macoun.*) In thickets near Regina, Assiniboia. (*Fletcher.*) Wooded country from Lake Winnipeg to the Rocky Mountains, and from Norway House to Cumberland House. (*Hooker, Fl.*)

(2339.) **D. Hookeri,** Torr.

Prosartes Hookeri, Torr. Pacif. R. Rep., IV., 144; Macoun, Cat. No. 1834.

The specimens placed under this species are unlike any form we have of *D. Oregana*. They are charcterized by perfectly smooth fruit (half-grown), and, in flowering specimens, by the smooth style and nearly glabrous ovary. Not uncommon in woods at Donald, in the Columbia Valley, and westward in Beaver Creek Valley to Roger's Pass, Selkirk Mountains; also at Quesnel, and Soda Creek, B.C., 1875. (*Macoun.*) Mountain slopes at Spence's Bridge, and Yale, B.C. (*Fletcher.*)

(2340.) **D. Oregana,** Watson.

Prosartes Oregana, Watson. Proced. Am. Acad., XIV., 271.

Uvularia lanuginosa, Hook., Fl. II., 174, in part.

Rich low woods. Apparently common in the rich woodlands throughout Vancouver Island, as far north as Qualicum and Alberni. All the island specimens have very hairy fruit even when fully ripe. Specimens exactly similar were gathered at New Westminster, B.C., 1875. (*Macoun.*) Eastern base of Coast Range, on Skagit River, B.C., 1877. Glenora, Stikine River, 1887. (*Dawson.*) Vicinity of Victoria, Vancouver Island. (*Meehan.*) North West coast. (*Hooker, Fl.*)

627. CLINTONIA, Rafin. (CLINTONIA)

(2341.) **C. borealis,** Raf. Gray, Man. Ed. V., 529.

Smilacina borealis, Pursh, Fl. I., 232; Hook., Fl. II., 175.

Rich cool woods, abundant chiefly eastward. Labrador. (*Butler.*) Brigus, Newfoundland. (*R. Bell.*) New Harbor, Trinity Bay, Newfoundland. (*Rev. A. Waghorne.*) Windsor, Halifax, Pictou, and Canso, Guysboro Co., N.S. (*Sommers, Cat.*) Bedford, N.S. (*McGill Coll. Herb.*) Rich woods, Truro, and Windsor, N.S. (*Macoun.*) St. John and King's Co's.; St. John city; Kouchibouguac; along the Tobique River; Bald Mountain and between Pabineau, and Grand Falls, N.B. (*Fowler, Cat.*) Bathurst, N.B. (*McGill Coll. Herb.*) Woods, Salt Lake, Anticosti, and on the Gaspé coast. (*Macoun.*) Ouatchechou, Island of Orleans, and Mingan Islands, River St. Lawrence. (*St. Cyr.*) Savanne and other places near Montreal, 1821. (*Dr. Holmes.*) Rich woods at Rivière du Loup, Q. (*Thomas.*) Very abundant in Argenteuil Co., Q. (*D'Urban.*) Murray Bay, St. Lawrence River. (*McGill Coll. Herb.*) Cool woods, vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Low wet woods and cedar swamps, central Ontario; common. (*Macoun.*) Somewhat common at Prescott, Ont. (*Billings.*) Vicinity of Hamilton, Ont. (*Buchan.*) Low woods, London, Ont., and Parry Sound, Georgian Bay. (*Burgess.*) Owen Sound, Mississagui Island, Cockburn Island, and Hilton, Georgian Bay. (*J. Bell.*) In many places around Lake Superior and Lake Nipigon, and westward on the Dawson route to Lake of the Woods. (*Macoun.*) Lake Mistassini, and down the Rupert River to James Bay; Lake Winnipeg and eastward down the Severn River; also down the Missinaibi River. (*J. M. Macoun.*) New Brunswick; Newfoundland; Canada to the Saskatchewan. (*Hooker, Fl.*)

(2342.) **C. uniflora,** Kunth. Baker, Journ. Linn. Soc., XIV., 584.

Smilacina uniflora, Menzies. Hook., Fl. II., 175; Macoun, Cat. No. 1847.

Cool shady woods, from the Rocky Mountains to Vancouver Island. South Kootanie Pass, and Kootanie Valley, Rocky Mountains; Tanyabunkat Lake, B.C. (*Dawson.*) Goose Creek Mountains, Cariboo, B.C., alt. 5,800 feet. (*Bowman.*) Rather uncommon in mountain woods, from Hector, Rocky Mountains, westward through British Columbia and northward to Fort McLeod, lat. 55°; rather rare on Vancouver Island, only observed on Mount Mark, alt. 2,750 feet. (*Macoun.*) Yale Mountain, B.C. (*Fletcher.*) North West America, and on the mountains of the interior. (*Hooker, Fl.*)

628. MEDEOLA, Linn. Gen. 455. (INDIAN CUCUMBER)

(2343.) **M. Virginica,** Linn. Michx., Fl. I., 214; Pursh, Fl. I., 244; Hook., Fl. II., 179.

Rich woods, rather common; but seldom seen in abundance anywhere. Windsor, Dartmouth, Halifax, and Pictou, N.S. (*Sommers, Cat.*) Truro, and North Woods, Annapolis, N.S. (*Macoun.*) Woodlands, Glenelg, Guysborough Co., N.S. (*Faribault.*) Bathurst, N.B. (*McGill Coll. Herb.*) Kouchibouguac, and Bass River; St. John, N.B. (*Fowler, Cat.*) Campbellton, and Hampton, N.B. (*Chalmers.*) Island of Orleans. (*Thomas.*) Very abundant in rocky and sandy woods, Argenteuil Co., Q. (*D'Urban.*) In a swamp, Montreal Mountain, 1821. (*Dr. Holmes.*) Rich woods, around Ottawa. (*Fletcher, Fl. Ott.*) Woods at Prescott, Ont.; common. (*Billings.*) Rich deep woods, rather uncommon, in central Ontario. (*Macoun.*) Woods near Lake Medad, Hamilton, Ont. (*Logie.*) Low rich woods, London, Ont., and Parry Sound, Georgian Bay. (*Burgess.*) London, and Komoka, Ont. (*Millman.*) Owen Sound, and Hilton, Ont. (*J. Bell.*) St. Joseph Island, Georgian Bay. (*R. Bell.*)

629. TRILLIUM, Linn. Gen. 456. (THREE-LEAVED NIGHTSHADE.)

(2344.) **T. erectum,** Linn., var. **atropurpureum,** Hook. Fl. II., 180; Pursh, Fl. I., 245.

T. rhomboideum, var. *atropurpureum,* Michx., Fl. I., 215.
T. obovatum, Pursh, Fl. I., 246. (Montreal plant.)

Low rich woods by the borders of swamps. Halifax, and near Rockhead; Hall's Harbor, King's Co., N.S. (*Sommers, Cat.*) Woods, Cape Blomidon, N.S. (*Macoun.*) Common about St. John, Loch Lomond, and St. Croix River; Upper St. John River and its tributaries, Norton, Tobique, near Pokiok, and Bald Mountain; rare in the northern counties of N.B. only reported from Restigouche. (*Fowler, Cat.*) Island of Orleans. (*St. Cyr.*) Papineau Road, near Montreal, 1821. (*Dr. Holmes.*) Rivière du Loup, Q. (*Thomas.*) Abundant in low woods, Argenteuil Co., Q. (*D'Urban.*) Vicinity of Ottawa; common. (*Fletcher, Fl. Ott.*) Common at Prescott, Ont. (*Billings.*) Very common throughout central Ontario in wet woods; northward it is found on drier soil, as at North

Bay, Lake Nipissing. (*Macoun.*) Woods, near Hamilton, Ont. (*Logie.*) Rich woods, London, Ont. (*Burgess.*) St. Joseph Island, Georgian Bay. (*J. Bell.*) Port Colborne, Ont. (*McGill Coll. Herb.*) Owen Sound, and in woods up the Kaministiqua River, west of Lake Superior. (*Macoun.*)

Var. **album,** Pursh, Fl. I., 245; Hook, Fl., II., 180.

Occasionally detected in low woods growing with the species. Eel River, Carleton Co., N.B. (*Fowler, Cat.*) Ironsides, Ottawa Co., Q. (*J. M. Macoun.*) Occasionally found with the species, and wherever it occurs about Ottawa. (*Fletcher.*) Gomin-Wood, near Quebec. (*St. Cyr.*) On limestone near Gate Lake, Argenteuil Co., Q. (*D'Urban.*) In low wet woods three miles east of Belleville, between the railway and the Bay of Quinte; low thicket, Cold Creek, Northumberland Co., Ont.; also woods at Owen Sound, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*)

Var. **ochroleucum,** Hook., Fl. II., 180.

Canada. (*Hooker. Fl.*) While exploring North Mountain, near Annapolis, N.S., a few years since, a couple of specimens of this variety were gathered. They are smaller flowered than the type, but generally resemble it.

Many years ago the writer obtained specimens of a form with *green* petals, which had been gathered in the county of Peterboro, Ont. Nothing has been heard of it for the last twenty years.

Var. **declinatum,** Gray, Man. Ed. V., 523.

T. cernuum, Watson. Proced. Am. Acad., Vol. XIV., 275 in part.

Campbellton, N.B. (*Chalmers.*) North shore of Lake Superior; at the mouth of Nipigon River and in the woods up the Kaministiqua; also in abundance at Totogon, at the southern end of Lake Manitoba. (*Macoun.*) London, Ont.; rare; also at Emerson, Man. (*Burgess.*) Missinaibi River, near James Bay. (*J. M. Macoun.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) From the Saskatchewan to the Mackenzie River. (*Hooker, Fl.*)

In my opinion if this is not a distinct species its proper place is as the western and northern form of *T. cernuum.* When fresh the two forms are very distinct. The peduncle in *T. cernuum* is short and *recurved,* while in this it is twice as long as in *cernuum* and merely *declined.* The habitat of *T. cernuum* is alluvial flats, while that of the variety is low damp woods, without reference to streams. The species is scented while the variety is scentless, and the flowers of the former are not half

as large as those of the latter. The two may grow in the same districts but not together. Dr. Watson disagrees with me and believes its place is with *T. erectum*, and in deference to him I place it there.

(2345.) **T. grandiflorum,** Salisb.; Pursh, Fl. I., 246; Hook., Fl. II., 180.

T. rhomboideum, var. *grandiflorum*, Michx., Fl. I., 216.
T. camtschaticum, Pursh, Fl. I., 246.

Not uncommon in rich woods in Ontario. Vicinity of Montreal, 1814. (*Pursh.*) Townships of Grenville and Wentworth, Argenteuil Co., Q. (*D'Urban.*) Very abundant on King's Mountain and other places near Ottawa. (*Fletcher, Fl. Ott.*) Very common at Prescott, Ont. (*Billings.*) Abundant throughout central Ontario. (*Macoun.*) Very common in woods at Hamilton, Ont. (*Logie.*) Rich woods, London, Ont. (*Burgess.*) Woods at Owen Sound, Ont. (*Macoun.*)

(2346.) **T. ovatum,** Pursh, Fl. I., 245; Hook., Fl. II., 180.

T. grandiflorum, Hook., Fl. II., 180, in part.

Rich woods in the Fraser Valley, from Yale to the coast, and not rare in rich, shady woods on Vancouver Island, from Victoria to Qualicum and Alberni. (*Macoun.*) Vicinity of Victoria. (*Hill. Fletcher.*)

(2347.) **T. cernuum,** Linn.; Hook., Fl. II., 180; Pursh, Fl. I., 245.

Chiefly in rich low woods, and intervale lands of river bottoms. Newfoundland. (*Cormack.*) Pictou, N.S. (*McKay.*) In woods, Truro, N.S. (*Macoun & Burgess.*) Rothesay, N.B. (*Matthews.*) Gallows Hill, near Napan, Northumberland Co.; Bass River, and Oxbow, on Salmon River; St. Francis, Kennebeccasis and Norton; Tobique, at Two Brooks, N.B. (*Fowler, Cat.*) Bathurst, N.B. (*McGill Coll. Herb.*) River Ste. Anne des Monts, Q. (*Macoun. Porter.*) In rich woods, Rivière du Loup, Q. (*Thomas.*) Island of Orleans. (*St. Cyr.*) Vicinity of Montreal, 1821. (*Dr. Holmes.*) Billings Bridge, the only locality near Ottawa. (*Fletcher, Fl. Ott.*) Woods along Bell's Creek, three miles east of Belleville, Hastings Co.; Cold Creek flats rear of Esli Terril's farm, Brighton, Northumberland Co., Ont. (*Macoun.*) St. Joseph Island, Georgian Bay. (*J. Bell.*)

(2348.) **T. erythrocarpum,** Michx., Fl., I., 216; Hook. Fl., II., 180.

T. pictum, Pursh, Fl. I., 244; Holmes, Cat. Montreal Plants.

Rich and cool woods, rather local in its distribution. Windsor, Halifax, Pictou, and Pirate's Harbor, Guysboro Co., N.S. (*Sommers, Cat.*) Woods, Glenelg, Guysboro Co., N.S. (*Faribault.*) Common, especially on recently burned ground in northern counties; St. John

and King's Co's.; also St. John city, N.B. (*Fowler, Cat.*) Portland, N.B. (*Matthews.*) In woods, Gaspé Basin, Q. (*Macoun.*) Island of Orleans. (*St. Cyr.*) In rich woods, Rivière du Loup, Q. (*Thomas.*) Papineau Wood, near Montreal, 1821. (*Dr. Holmes.*) Abundant in rocky woods, Argenteuil Co., Q. (*D'Urban.*) Local at Ottawa, (*Fletcher, Fl. Ott.*) Somewhat rare at Prescott, Ont. (*Billings.*) North Bay, Lake Nipissing, and at Collingwood, Georgian Bay. (*Macoun.*) St. Remi, Q.; and Kemptville, Ont. (*McGill Coll. Herb.*) Rich woods, Hatchley, Ont; Port Cockburn, Lake Joseph, Muskoka Co., Ont. (*Burgess.*)

630. MELANTHIUM, Linn. Gen. 454.

(2349.) **M. Virginicum,** Linn.; Gray, Man. Ed. V., 524.

M. hybridum, Pursh, Fl. I., 242.

Leimanthium hybridum, Rœm.; Hook., Fl. II., 177.

Upper Canada. (*Hooker, Fl.*) We have never seen a Canadian specimen of this species, and cannot speak explicitly of its occurrence in western Ontario. Certainly the region where Mr. Goldie botanized (the shores of Lake Erie) is less known botanically, than any other part of the Dominion, except the extreme north.

631. VERATRUM, Linn. Gen. 1144. (FALSE HELLEBORE.)

(2350.) **V. viride,** Ait.; Pursh, Fl. I., 242; Hook. Fl. II. 178.

V. album, Michx., Fl. I., 249; Macoun, Cat. No. 1829.

V. Eschscholtzii, Gray; Rothr. Alask. 456.

V. album, var. *Eschscholtzii,* Dawson, Bound. Rep. 374.

Rather common on intervales of the Restigouche, Richibucto, St. John, and Kennebeccasis rivers, N.B. (*Fowler, Cat.*) In numerous places along the Gaspé coast, from Mont Louis to Metis. (*Macoun.*) Island of Orleans, Q. (*St. Cyr.*) Very common at Rivière du Loup, Q. (*Thomas.*) South Kootanie Pass and foothills of Rocky Mountains, 49th parallel. (*Dawson. Burgess.*) In mountain swamps and on snow-slides from Castle Mountain, in the Rocky Mountains, westward to the Selkirks and mountains in the Peace River Pass, lat. 56°; on mountain slopes and in river valleys, Mount Finlayson, Mount Benson, Mount Arrowsmith, and Mount Mark; also at Goldstream, Nanaimo, Qualicum and Alberni, Vancouver Island. (*Macoun.*) Sooke, Vancouver Island.

(*Fletcher.*) Sitka. (*Rothr. Alask.*) Canada to the Saskatchewan and the Rocky Mountains, and from the Columbia to the Stikine. (*Hooker, Fl.*) Snow Shoe Valley, Cariboo, B.C., alt. 3,000 feet. (*Bowman.*)

632. STENANTHIUM, A. Gray. Ann. Lyc. N. York IV., 119.

(2351.) **S. occidentale,** Gray, Proced. Am. Acad., XVIII., 405.

Crow Nest and South Kootanie passes, Rocky Mountains. (*Dawson.*) Abundant on the slopes of ravines on all the Rocky Mountains up the Bow River Valley, and westward to the Columbia Valley at Donald; along Little Qualicum River, on the slopes of Mount Arrowsmith, alt. 4,500 feet, and on Mount Mark, alt. 2,500 feet, Vancouver Island. (*Macoun.*) Near Yale, B.C. (*Fletcher.*)

633. ZYGADENUS, Michx. Fl. I., 213. (ZYGADENE.)

(2352.) **Z. elegans,** Pursh, Fl. I., 241; Hook., Fl. II., 178.

Z. glaucus, Nutt.; Hook., Fl. II., 178; Macoun, Cat. No. 1826.

Z. chloranthus, Richards; Hook., Fl. II., 177.

Rather rare along river banks eastward but abundant on the prairies and westward to the Pacific. Sand beach at Belledune, N.B. (*Fowler, Cat.*) Salt Lake, Anticosti, and on cliffs along the Gaspé coast. (*Macoun.*) Mingan Islands and Anticosti. (*St. Cyr.*) Murray Bay, River St. Lawrence. (*McGill Coll. Herb.*) Bank of the Moira and in a field near Belleville; rocky banks Shannonville, and swamp three miles south of Marmora, Hastings Co.; marsh at Chicken Bay, Lake Huron. (*Macoun.*) Island Harbor, and Drummond Island, Georgian Bay. (*J. Bell.*) Shaded river bank, Southampton, and Elora, Ont. (*Burgess.*) Very common throughout the prairie region extending westward through the Rocky Mountains to the Columbia Valley at Donald. (*Macoun.*) Near Turtle Mountain and westward on the 49th parallel to the Milk River, and Crow Nest Pass in the Rocky Mountains. (*Dawson.*) Fort Selkirk, Yukon River, lat. 62° 45'. (*Schwatka.*) Kotzebue Sound, Port Clarence, Arctic coast and Fort Yukon. (*Rothr. Alask.*) Banks of the St. Lawrence, around Niagara Falls, and on the borders of Lakes Erie and Huron. In the valleys of the Rocky Mountains near the sources of the Columbia and on the banks of the Saskatchewan and Red rivers. (*Hooker, Fl.*)

(2353.) **Z. venenosus,** Watson, Proced. Am. Acad., XIV., 279.

Z. Nuttallii, Gray ; Macoun, Cat. No. 1827.
Leimanthium Nuttallii, Hook., Fl. II., 177.

Quite common on the upper slopes of the Cypress Hills and westward through the foot-hills to Castle Mountain in the Rocky Mountains. (*Macoun.*) Wood Mountain, 49th parallel, 1874. (*Millman. Burgess.*) Kamloops, B.C. (*Prof. Fowler.*) Lytton, B.C. (*Hill.*) Milk River Ridge, Alberta; Nicola Valley, and Drew Harbor, B.C. North point of Texada Island, Gulf of Georgia. (*Dawson.*) Abundant in the Fraser Valley; and around Victoria, Vancouver Island. (*Fletcher.*) Very abundant in the southern part of Vancouver Island, and extending to Qualicum and Alberni. (*Macoun.*) Locally named "Poison Camass," as the bulb is poisonous.

(2354.) **Z. paniculatus,** Watson, Rep. King's Exp. V., 344.

Helonias paniculata, Nutt., Journ. Phil. Acad., VII., 57.

Apparently rare, on the great plains, as none of our collectors, so far as I am aware, have even gathered the plant. According to Dr. Watson it ranges from Nevada to the Saskatchewan.

CVIII. PONTEDERIACEÆ. Pickerel-weed Family.

634. PONTEDERIA, Linn. (PICKEREL-WEED.)

(2355.) **P. cordata,** Linn. ; Hook., Fl. II., 187.

Frequent in ponds and by lake margins. Marshes near Cape Blomidon, N.S. (*Macoun.*) Windsor, Halifax, Pictou, Mahone Bay and Truro, N.S. (*Sommers, Cat.*) Shallow water, Caledonia, Guysboro Co., N.S. (*Faribault.*) Kennebeccasis, near the railway station, Fredericton, Grand Lake, several places on the St. John River, Tobique Lake, Norton, Clifton Lake, and common in western parts of Charlotte Co., N.B. (*Fowler, Cat.*) Port St. Francois, Nicolet, Q. (*St. Cyr.*) Lake St. Augustine, Q. (*Thomas.*) Very abundant in small lakes near Lake of the Three Mountains, and in sheltered parts of Trembling Lake, Argenteuil Co., Q. (*D'Urban.*) Mouth of River St. Pierre, near Montreal, 1821. (*Dr. Holmes.*) Nation, Rideau and Ottawa rivers, near Ottawa. (*Fletcher, Fl. Ott.*) In streams inland, from Prescott northward; very common. (*Billings.*) Common in all slow-flowing rivers and lakes, and ponds throughout the northern counties of

Ontario. (*Macoun.*) Burlington Beach, Hamilton, Ont. (*Logie.*) Moon River, Muskoka Co., Ont., and Parry Sound, Georgian Bay. (*Burgess.*) St. Joseph Harbor, Georgian Bay. (*J. Bell.*) From Lake Huron to the Saskatchewan. (*Hooker, Fl.*)

Var. **angustifolia,** Gray, Man. Ed. V., 545.

P. angustifolia, Pursh, Fl. I., 224.

This variety is very distinct from the species if the form of the leaf only is considered. The St. Clair specimens have leaves fully eight inches long and not at all cordate at the base. Many of the references given with the species very likely belong here, but we have no means of determining without the specimens. Shallow water, Norton, N.B. (*Hay.*) St. Clair River, Ont. (*J. M. Macoun.*) Still water, Trent River, above Heely Falls, Northumberland Co.; and Lake Isaac, Bruce Peninsula, Ont. (*Macoun.*) In water at Parry Sound, Georgian Bay. (*Burgess.*)

635. HETERANTHERA, Ruiz. (WATER-STAR GRASS.)

(2356.) **H. graminea,** Vahl.; Pursh, Fl. I., 32.

Leptanthus gramineus, Michx.; Hook., Fl. II., 187.
Schollera graminea, Willd.; Gray, Man. Ed. V., 545; Macoun, Cat. No. 1906.

Abundant at Ottawa. (*Fletcher, Fl. Ott.*) In gravel along the north shore of Lake Ontario and the Bay of Quinte, at Belleville, and at Weller's Bay, Prince Edward Co., Ont. (*Macoun.*) Vicinity of Hamilton, Ont., on the lake shore. (*Buchan.*) On the lake shore at Kingston, Ont. (*Burgess.*)

CIX. XYRIDEÆ. YELLOW-EYED-GRASS FAMILY.

636. XYRIS, Linn. (YELLOW-EYED GRASS.)

(2357.) **X. flexuosa,** Muhl., var. **pusilla,** Gray, Man. Ed. V., 548.

X. Caroliniana, Pursh, Fl. I., 33, in part.
X. Jupacai, Michx., Fl. I., 23, in part.

This form is easily distinguished from the species by being *without* the bulbous base. The writer believes it to be a distinct species and wholly separate from *X. flexuosa.* Peat bogs and wet sandy shores in

the northern forest region of Ontario and the eastern provinces. Halifax, N.S. (*Sommers, Cat.*) Peat bogs, Guysboro Co., N.S. (*Robert.*) Kendrick's Lake, near St. Stephen; Point de Bute, Westmoreland Co., N.B. (*Fowler, Cat.*) Blackstone Lake, and Port Cockburn, Lake Joseph, Muskoka Co., Ont. (*Burgess.*)

CX. JUNCACEÆ. Rush Family.

637. JUNCUS, Linn. Gen. 437. (RUSH, BOG-RUSH.)

(2358.) **J. effusus,** Linn.; Hook., Fl. II., 190.

Frequent in ditches and boggy places throughout the eastern provinces; Brigus, Newfoundland. (*R. Bell.*) Windsor, Bedford, and Pictou, N.S. (*Sommers, Cat.*) Magdalen Islands, Gulf of St. Lawrence. (*J. Richardson.*) Truro, Halifax, Annapolis and Yarmouth, N.S.; also in the river valley at Whycocomagh, Cape Breton. (*Macoun.*) Abundant in marshy ground, New Brunswick. (*Fowler, Cat.*) Pentecost River, Levis, and Ragged Islands, River St. Lawrence. (*St. Cyr.*) Ditches in McKay's Woods and other places at Ottawa. (*Fletcher, Fl. Ott.*) Very common around Prescott, Ont. (*Billings.*) Abundant throughout central Ontario. (*Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*) In low swampy grounds near London, Ont. (*Burgess.*) Ditches at Owen Sound, and in meadows at Fort William and westward up the Kaministiqua River. (*Macoun.*) Lake Wabatongwashene, Ont.; York Factory, Hudson Bay. (*R. Bell.*) Moose Factory, James Bay. (*Cottar & Hayden.*) Rather common in springy places throughout the southern half of Vancouver Island, extending to Qualicum, and Barclay Sound. (*Macoun.*)

Var. **brunneus,** Engelm. Proc. Calif. Acad. II., 491.

Abundant on the islands in Barclay Sound, west coast of Vancouver Island, 1887. (*Macoun.*)

Var. **conglomeratus,** Gray, Man. Ed. V., 537.

In the same situations as the species, but less common. Not common in low grounds at Annapolis, N.S., and at Whycocomagh, Cape Breton. (*Macoun.*) Fredricton, N.B., and elsewhere; not common. (*Fowler, Cat.*)

(2359.) **J. filiformis,** Linn.; Hook., Fl. II., 190.

Rather common along river margins, in gravel, and on lake shores;

widely diffused. Bedford, near Halifax, N.S. (*Sommers, Cat.*) Low meadows, North Sydney, Cape Breton. (*Burgess.*) Truro, and Yarmouth, N.S. (*Macoun.*) Magdalen Islands, Gulf of St. Lawrence. (*J. Richardson.*) Richibucto, Kouchibouguac, Woodstock and Salmon River, N.B. (*Fowler, Cat.*) Wet meadows, Gaspé Basin, Q. *Macoun.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Border of Black Creek, Grimsthorpe, Hastings Co.; abundant at Elliott's Falls, Gull River, Victoria Co., Ont.; White River, north of Lake Superior; in wet meadows, Fort William, Thunder Bay. (*Macoun.*) Lake Mistassini, N.E.T., and Fort George, James Bay. (*J. M. Macoun.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) Shore of Little Slave Lake and along the Saskatchewan at Fort Carleton, and along Bow River, above Calgary; in a boggy spot on the "Tote Road," one mile west of the Selkirk summit, B.C., 1885. (*Macoun.*) Saskatchewan River to Bear Lake and English River. (*Hooker, Fl.*) Southern Greenland. (*Hook., Arct. Pl.*)

(2360.) **J. Balticus,** Var. *β.* **littoralis,** Engelm., Mon. Junc. 442.

J. Balticus, Dethard.; Hook., Fl. II., 180.
J. glaucus, Rich., App. page 11.

Sandy shores of lakes and by the sea; not rare. Pictou, N.S. (*McKay.*) Along the coast at Yarmouth and Truro, N.S. (*Macoun.*) Common on the coast of Kent Co., N.B. (*Fowler, Cat.*) Along the coast of Anticosti, at Salt Lake and Jupiter River; Gaspé Basin and along the coast to Matane, Q. (*Macoun.*) Mingan Islands, River St. Lawrence. (*St. Cyr.*) Along the St. Lawrence River at Prescott, Ont.; rare. (*Billings.*) Abundant at West Lake, Prince Edward Co. and around Presqu'ile Point, Lake Ontario, and five miles north of Trenton, Northumberland Co., Ont.; Point aux Pins, Sault Ste. Marie, and along the north-east coast of Lake Superior; Poplar River, Lake Nipigon and westward. (*Macoun.*) Sandy shore of Toronto Island, and at Southampton, Lake Huron. (*Burgess.*) Fort George, James Bay. (*J. M. Macoun.*) North end of Lake Winnipeg, and Knee Lake, Keewatin. (*R. Bell.*) The panicle of the sea coast form is much more compact than that from the Great Lakes.

Var. *γ.* **montanus,** Engelm., Mon. Junc., 442.

J. Balticus, Hook., Fl. II., 189, in part.

This form is abundant throughout the prairie region, extending from the eastern border at Red River across the prairies and through the Rocky Mountains to Donald on the Columbia. (*Macoun.*) Saskatchewan River near the mountains, and at Little Slave Lake. (*Hooker, Fl.*)

(2361.) **J. Lescurii,** Bolander, Bot. Calif., Vol. II., 205.

J. Balticus, var. *Pacificus*, Engelm., Mon. Junc., 442.

Our own specimens and those of Dawson, of this species, collected on Vancouver Island, are easily separated from those of the closely related *J. Balticus*, by their seeds, which are of a lighter color and less apiculate, and by their brown margined perianth scales. Abundant in salt marshes and on sand along the coast of Vancouver Island; near Victoria, Nanaimo, Departure Bay, Qualicum, Comox, and Alberni. (*Macoun.*) Blenkinsop Bay, Vancouver Island, 1885; Lewis River, lat. 61° north of British Columbia. (*Dawson.*) All references to *J. Balticus* on the Pacific coast are placed below.

North West America. (*Hooker, Fl.*) Cape Espenberg, Norton Sound, and Ounalashka. (*Rothr. Alask.*) Fort Wrangel, Alaska. (*Meehan.*)

(2362.) **J. arcticus,** Willd.; Hook., Fl. II., 189, in part.

We know nothing of this species. Arctic sea-coast. (*Hooker, Fl.*) Mossy soil, Middliattwack Islands, Cumberland Gulf, and Scott's Bay. (*J. Taylor.*) Greenland. (*Hook. Arct. Pl.*)

Var. **Sitchensis,** Engelm., Mon. Junc., 445.

Engelmann says that this variety is found on both sides of Behring Straits and on the island of Kodiak. Bartlett Bay Alaska. (*Meehan.*) Sitka. (*Rothr. Alask.*) Point Mulgrave, Behring Straits. (*Hooker, Fl.*)

(2363.) **J. Drummondii,** E. Meyer. Ledeb. Flor. Ross. IV., 235.

J. arcticus, var. *β. gracilis*, Hook., Fl. II., 189.

Quite common on the higher Rocky Mountains, from Castle Mountain westward; appearing again on all the high mountains about the sources of Bear Creek, Selkirk Mountains. (*Macoun.*) At a great elevation in the Rocky Mountains. (*Hooker, Fl.*) Western summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*) Ounalashka. (*Rothr. Alask.*)

(2364.) **J. Parryi,** Engelm., Mon. Junc., 446.

J. arcticus, var. *gracilis ?* Gray in Pl. Parry, 34.

On the western summit of the North Kootanie Pass, and on the summit of the South Kootanie Pass, Rocky Mountains. (*Dawson.*) On the grassy summits of the mountains near the Glacier Hotel, Selkirk Mountains. Specimens over a foot high and having all the characters of this species were gathered in quantity during the past summer (1887) on Mount Benson and Mount Mark, alt. 3,000 feet, and on Mount Arrowsmith, alt. 5,000 feet, Vancouver Island. (*Macoun.*)

2365.) **J. trifidus,** Linn.; Engelm., Mon. Junc. 447.

Mountain summits or far north. Newfoundland. (*Engelmann.*) Summit of Mount Albert, Gaspé, Q., alt. 4,000 feet, 1882. (*Macoun. Porter.*) Southern Greenland. (*Hook. Arct. Pl.*)

(2366.) **J. biglumis,** Linn.; Hook., Fl. II., 192.

Arctic sea-coast and islands; Rocky Mountains, north of Smoking River; Bay of Good Hope, Behring Straits. (*Hooker, Fl.*) Kotzebue Sound. (*Rothr. Alask.*) Port Kennedy, Boothian Peninsula. (*Dr. Walker.*) Coast to snow line on both sides of Baffin Bay. (*J. Taylor.*) Greenland. (*R. Brown.*)

(2367.) **J. triglumis,** Linn.; Hook., Fl. II., 192.

Mountain summits and Arctic coasts. Ungava Bay, Labrador coast. (*Barnston.*) In mountain woods, along streams on mud at Castle Mountain and Kicking Horse Lake, Rocky Mountains. (*Macoun.*) Fort George and the South Twin Island, James Bay. (*J. M. Macoun.*) Arctic sea-coast; alpine swamps in the Rocky Mountains. (*Hooker, Fl.*) Greenland. (*R. Brown.*)

(2368.) **J. stygius,** Linn.; Engelm., Mon. Junc., 448.

Peat bogs, and northward rather rare or seldom collected. Peat bogs at Richibucto and Point Escuminac, Andover and Salmon River, and near St. John, N.B. (*Fowler, Cat.*) Campbellton, N.B. (*Chalmers.*) Dalhousie, N.B. (*Fletcher*) Peat bog, Salt Lake, Anticosti. (*Macoun.*) Newfoundland. (*Engelmann.*)

(2369.) **J. castaneus,** Smith; Hook., Fl. II., 192.

Mountain summits and Arctic shores. Ungava Bay, Labrador coast. (*Barnston.*) Ellis Bay, Anticosti. (*St. Cyr.*) Abundant along the Bow River at Castle Mountain, and westward in the river valley and over the summit to Kicking Horse Lake, where it is particularly abundant, 1885. (*Macoun.*) Lewis River, lat. 61° north of British Columbia. (*Dawson.*) York Factory, Hudson Bay; Edmonton on the Saskatchewan, and west to the Rocky Mountains, thence to Bear Lake; North West coast, from Ounalashka to Kotzebue Sound. (*Hooker, Fl.*) Grows where water has stood in the early part of the season, west side of Cumberland Gulf. (*J. Taylor.*) Greenland. (*R. Brown.*)

(2370.) **J. Vaseyi,** Engelm., Mon. Junc., 488.

Wet or damp meadows, chiefly in the prairie region. Meadows at the Pic, Lake Superior, and on Flat Rock Portage, Lake Nipigon; not

uncommon on the prairies as far west as Brandon. As this species has a close resemblance to *J. tenuis*, it is probable that it is often passed over for that species. On the Saskatchewan. (*Bourgeau.*) Island of Orleans. (*St. Cyr.*)

(2371.) **J. Greenii,** Oakes & Tuckerm. Sill. Journ. 45 (1843.)

Very likely rare in all parts of Canada, or may be overlooked as a form of *J. tenuis*. Wet sandy places, Kouchibouguasis, Kent Co., N.B. (*Fowler, Cat.*) Wet sand, shore of Hog Lake, North Hastings, Ont. (*Macoun.*) Sandy shore and crevices of rocks, Port Cockburn, Lake Joseph, Muskoka Co., Ont. (*Burgess.*)

(2372.) **J. tenuis,** Willd.; Hook., Fl. II., 191; Pursh, Fl. I., 238.

J. bicornis, Pursh, Fl. I., 236; Michx., Fl. I., 191.

Rather common from the Atlantic to the Pacific, usually in boggy pastures or along old roads in woods. On Halifax Common, N.S. (*Sommers.*) Common at Truro, Windsor and Yarmouth, N.S. (*Macoun.*) Wet places, Goldenville, Guysboro Co., N.S. (*Faribault.*) Common; Hopewell Cape, and Andover, N.B. (*Fowler, Cat.*) Valcartier and Beaumont, Q. (*St. Cyr.*) Hamilton's Farm, Argenteuil Co., Q. (*D'Urban.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Common at Prescott, Ont. (*Billings.*) Abundant in wet meadows in central Ontario. (*Macoun.*) Neighborhood of Hamilton, Ont. (*Logie.*) Niagara Falls, and low grounds at London, Ont. (*Burgess.*) Wet meadows, Owen Sound; Little Flat Rock Portage, Lake Nipigon; very abundant throughout the prairie region and northward in the mixed forest country to the Peace River. (*Macoun.*) Kabinakagami Lake, Ont.; Oxford House and Nelson River, Keewatin. (*R. Bell.*) Lake Mistassini, N.E.T.; Severn River, Keewatin; and Souris River, Man. (*J. M. Macoun.*) Rather common in meadows and damp pastures in many parts of Vancouver Island, especially around Victoria. (*Macoun.*) Pitt River, B.C. (*Hill.*) Lake Huron to Bear Lake, and from Hudson Bay to the sources of the Columbia in the Rocky Mountains. (*Hooker, Fl.*)

Var. *β.* **secundus,** Engelm., Mon. Junc., 450.

Apparently rare or seldom collected. Bass, and Salmon rivers, N.B. (*Fowler, Cat.*) Occasionally met with between Edmonton and Little Slave Lake. Our specimens are from this region. (*Macoun.*)

Var. *γ.* **congestus,** Engelm., Mon. Junc., 450.

Common in numerous meadows, at Oak Bay and Cedar Hill, near Victoria, Vancouver Island, 1887. (*Macoun.*)

(2373.) **J. Gerardi,** Lois. Notic. 60, (1810.) **(BLACK GRASS.)**

In salt marshes along the Atlantic coast. Windsor, N.S. (*Howe.*) Salt marshes at Truro and Annapolis, N.S. (*Macoun & Burgess.*) Magdalen Islands and Pictou, N.S. (*McKay.*) Salt marshes at Kouchibouguasis, and St. John, N.B. (*Fowler, Cat.*) Beaumont Lake, Q. (*St. Cyr.*) Salt marsh at the head of James Bay, Victoria, Vancouver Island, 1887. (*Macoun.*)

(2374.) **J. bufonius,** Linn.; Hook., Fl. II., 190; Pursh, Fl. I., 238.

Abundant in suitable localities from the Atlantic to the Pacific. Brigus and Petty Harbor, Newfoundland. (*R. Bell.*) Boggy places at Annapolis and Yarmouth, N.S. (*Macoun.*) Very common throughout New Brunswick. (*Fowler, Cat.*) Abundant at Salt Lake and Jupiter River, Anticosti. (*Macoun.*) Thunder River, Q. (*St. Cyr.*) Hamilton's Farm, Argenteuil Co., Q. (*D'Urban.*) Low wet places, quite common at Ottawa. (*Fletcher, Fl. Ott.*) Common at Prescott, Ont. (*Billings.*) Very abundant in overflowed spots by brooks and rivers in central Ontario, and around Lake Superior. (*Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*) On roadsides at Port Stanley, Lake Erie, and at Port Arthur, on Lake Superior. (*Burgess.*) Abundant on mud by rivers throughout the prairie region and on the Cypress Hills; also abundant in muddy places on Vancouver Island, at Victoria, Nanaimo, Qualicum and Alberni. (*Macoun.*) Sitka, Alaska. (*Meehan.*) Throughout Canada to Bear Lake; North West coast, abundant. (*Hooker, Fl.*) Greenland. (*Lange*).

Var. **fasciculiflorus,** Boiss.; Engelm. Mon. Junc., 451.

Apparently rare or overlooked. Muddy places at Belleville, Ont., 1870; in abundance on King's Farm, Cedar Hill, near Victoria, Vancouver Island, 1887. Easily distinguished from the species by the flowers gathered in fascicles instead of being single on the branches as in the species.

(2375.) **J. falcatus,** E. Meyer. Synops. Luzul. 34.

J. Menziesii, R. Br.; Hook., Fl. II., 192.

Very abundant on the grassy margins of lakes; amongst gravel in many parts of Vancouver Island. Shawnigan Lake; various places at Nanaimo, Qualicum and Alberni; also at Horne and Cameron lakes. (*Macoun.*) Nimpkish Lake, north end of Vancouver Island. (*Dawson.*) Ounalashka, and Sitka. (*Rothr. Alask.*) North West coast. (*Hooker, Fl.*)

(2376.) **J. longistylis,** Torrey, Bot. Mex. Bound., 323.

J. Menziesii, Gray, Pl., Hall & Harb., 77.

Abundant on many parts of the prairie region. Rather com-

mon at Windsor on the Detroit River, 1885. (*Macoun.*) First Branch of Milk River, 49th parallel. (*Dawson.*) Maple Creek, Alberta. (*J. M. Macoun.*) Frequent in damp grassy thickets from Winnipeg to Edmonton and south to the Cypress Hills and Calgary, from thence up the Bow River to Laggan, in the centre of the Rocky Mountains. (*Macoun.*)

(2377.) **J. marginatus,** Rostk. var. **paucicapitatus,** Engelm., Mon. Junc., 455.

The only locality for this species known to us is Elliott's Falls, Gull River, Victoria Co., Ont., 1868. (*Macoun.*) Engelmann in "Normal Herbarium" credits his No. 34 to Canada West, on the authority of Bigelow.

(2378.) **J. pelocarpus,** E. Meyer. Synops. Luzul. 30.

J. Conradi, Gray, Man. Ed. II., 482.

J. acutiflorus, Hook., Fl. II., 190.

In wet sand along rivers or lakes, apparently rare. From Newfoundland westward to Lake Superior. (*Engelmann.*) Bocabec, and Quaco, N.B. (*Fowler, Cat.*) On the bank of the Ottawa, above Britannia, near Ottawa. (*Fletcher, Fl. Ott.*) On the shores of lakes and small streams in North Hastings and Addington Co's., Ont. (*Macoun.*) Wet gravelly shore, Lake Joseph, Muskoka Co, Ont. (*Burgess.*)

Var. γ (?) **subtilis,** Engelm., Mon. Junc., 456.

J. fluitans, Michx., Fl. I., 191.

J. uliginosus, β. subtilis, Hook., Fl. II., 191.

Chicoutimi, about 100 miles north of Quebec. (*Michaux.*) The above locality was given to Dr. Engelman by Prof. Ovide Brunet, of Laval University, Quebec. Both are now dead.

(2379.) **J. articulatus,** Linn.; Engelm., Mon. Junc., 458.

Engelmann states that this species, as far as he is aware, is confined to the New England States, and that the next species takes its place to the northward and westward. Wet ditch at Windsor, N.S., and at North Sydney, Cape Breton. (*Macoun & Burgess.*) Hampton, Petitcodiac, Baie Verte, and Clifton, N.B. (*Fowler, Cat.*) Fox River, Gaspé coast. (*Macoun.*)

(2380.) **J. alpinus,** Villars., var. **insignis,** Fries.

J. Richardsonianus Rœm. & Schult.; Hook. Fl. II., 191.
J. acutiflorus, Hook., Fl. II., 190.
J. pelocarpus, Gray, Man. Ed. I., 507, in part.
J. articulatus, var. *pelocarpus,* Gray, Man. Ed. II., 482, in part.
J. uliginosus, var. *minor,* Hook., Fl. II., 191.

Very abundant by lake and river margins, in sand or gravel. Very often in the water, and sometimes floating or reclining or rooting in the mud. On sand, Liscomb River, Guysboro Co., N.S. (*Faribault.*) Magdalen Islands, N.S. (*J. Richardson.*) Truro, N.S.; South West Point, Salt Lake, and Jupiter River, Anticosti; River Ste. Anne des Monts, Gaspé, Q. (*Macoun*) Island of Orleans. (*St. Cyr.*) Abundant on sandy banks of the River Rouge, Argenteuil Co., Q. (*D'Urban.*) Muddy or gravelly places along the Ottawa. (*Fletcher, Fl. Ott.*) Ditches and boggy places, at Prescott, Ont. (*Billings.*) Common in wet sandy places along the Great Lakes and throughout central Ontario. (*Macoun.*) Wet gravelly shore, Parry Sound, Georgian Bay; at Southampton, Ont.; Point aux Pins, Lake Erie. (*Burgess.*) Vicinity of Hamilton, Ont. (*Buchan.*) Very abundant along all the water courses and fresh water lakes in the prairie region, and extending north to the Peace River and Athabasca; specimens from Thunder Creek, Cypress Hills, Bow River at Calgary; Kananaskis, Castle Mountain and Kicking Horse Lake, in the Rocky Mountains; abundant on the borders of Horne, Cameron and Shawnigan lakes, Vancouver Island. (*Macoun.*) Wooded country to the Mackenzie River; Arctic sea-coast, and from Slave Lake to the Rocky Mountains. (*Hooker, Fl.*) Two remarkable forms of this species have been gathered on Vancouver Island. A form floating on mud in a small lake at the Wellington Mine, Departure Bay, exactly matches specimens received from the British Museum without a name, gathered by Barclay at Port Etches, Alaska. The other is a tall, less compact form than the species, with longer scales, and in most cases two or more viviparous flowers in the heads. The latter was collected at Horne Lake, July 27, 1887.

(2381.) **J. militaris,** Bigelow, Fl. Bost. Ed. II. 139, (1824.)

Apparently very rare in the Maritime Provinces. Wet places, Caledonia, Guysboro Co., N.S. (*Faribault.*) Near St. Stephen, N.B. (*Vroom.*)

(2382.) **J. acuminatus,** Michx., var. *α.* **legitimus,** Engelm., Mon. Junc., 463.

J. acuminatus, Michx., Fl. I., 192.
J. paradoxus, E. Meyer.; Gray, Man. Ed. II., 481.
J. fraternus, Kunth. Enum. III., 332.

We have no authentic specimens of this species except from the shores of Lake Erie, at Pelee Point, and from Essex Centre, on the Canada Southern Railway, 1882. (*Macoun.*)

(2383.) **J. nodosus,** var. *α.* **genuinus,** Engelm., Mon. Junc., 471.

J. nodosus, Linn; Gray, Man. Ed. II., 482; Macoun, Cat. No. 1898.
J. polycephalus, var. *β. tenuifolius,* Hook., Fl. II., 190.
J. Rostkovii, La Harpe, Mon. Junc., 133.
J. *echinatus,* Muhl. Rich., App. p. 11.

Quite common in many localities, ranging from the Atlantic to the Pacific. Wet sandy bottom, at Whycocomagh, Cape Breton. (*Macoun.*) Restigouche, Campbellton, Andover, Salmon River, Green River and Upper St. John, N.B. (*Fowler, Cat.*) Salt Lake, Anticosti, and at Fox River, Gaspé coast. (*Macoun.*) St. Charles River, Q. (*St. Cyr.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Common at Prescott, Ont. (*Billings.*) Border of Salmon River, near Shannonville, Hastings Co., Ont.; in small brooks, Victoria Co., and at Owen Sound, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*) Wet river flat, London, and at Southampton, Ont. (*Burgess.*) La Cloche Island, Georgian Bay. (*R. Bell.*) North shore of Lake Superior. (*Agassiz.*) Shores of Thunder Bay, Lake Superior, and on the shore of Lake Nipigon, at Humboldt Bay. (*Macoun.*) Elk Island, Lake Winnipeg. (*J. M. Macoun.*) Rather common in the bed of the Saskatchewan and its branches; not detected in the Rocky Mountains, and only sparingly at Donald, in the Columbia Valley. (*Macoun.*) Along the Thompson River, at Spence's Bridge, B.C. (*Fletcher.*) Canada to Bear Lake. (*Hooker, Fl.*)

The tall form mentioned by Dr. Gray (Manual 542) as occurring on the islands above Niagara Falls, has been gathered at Point aux Pins, Lake Erie, by Dr. Burgess.

Var. **megacephalus,** Torr., Bot. N. York II., 326.

J. megacephalus, Wood, Bot., 724.

Low rich soil or lake margins. Toronto Island, Lake Ontario. (*Burgess. Macoun.*) Burlington Marsh, near Hamilton, Ont. (*Buchan.*) Abundant in many places in low wet situations throughout Manitoba, extending west to the File Hills and Elbow of the South Saskatchewan. (*Macoun.*) Point aux Pins, Lake Erie. (*Burgess.*)

(2384.) **J. Canadensis,** J. Gay, var. *α,* **coarctatus,** Engelm., Mon. Junc., 473.

J. Canadensis, β, J. Gay, La Harpe Mon., 134.
J. accuminatus, Torr. Bot., N. York, II., 327.
J. acutiflorus, β, minor, Hook., Fl. II., 190. (?)

Low grounds, especially along lake margins; not uncommon. Bed-

ford and Pictou, N.S. (*Sommers, Cat.*) River bottom, Whycocomagh, and North Sydney, Cape Breton; border of a lakelet, Canso, N.S. (*Macoun.*) Rather common in Kent Co.; Bocabec and Chipman, N.B. (*Fowler, Cat.*) Campbellton, N.B. (*Chalmers.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Borders of various lakes in Hastings, Addington, and Victoria Co's., Ont. (*Macoun.*) Low sandy places, Port Cockburn, Muskoka Co.; also in ditches at Leamington, Ont. (*Burgess.*) Point Edward, Lake St. Clair, Ont.; Lake Mistassini, N.E.T. (*J. M. Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*)

Var. δ. **longecaudatus,** Engelm., Mon. Junc., 474.

J. paradoxus, Gray, Man. Ed. II, 483.

J. polycephalus, β, paradoxus, Torr. Bot., N. York, II., 327.

Easily separated from the preceding variety, as it is much taller and has many flowered heads. Common in Kent Co., N.B. (*Fowler, Cat.*) Gull River, Victoria Co., Ont., and Point Edward, Lake Huron. (*Macoun.*) Mossy bog, London, Ont. (*Burgess. Millman.*) Sault Ste. Marie. (*Burgess.*)

(2385.) **J. Mertensianus,** Bong. Veg. Sitcha, (1833.)

J. ensifolius, var. *minor,* Hook., Fl. II., 191, in part.

Wet places along mountain brooks. Camp Akamina, Rocky Mountains, 6,000 feet alt, South Kootanie Pass, 49th parallel. (*Dawson.*) On the summit of Copper and Castle mountains, Rocky Mountains. (*Macoun.*) Alpine swamps of the Rocky Mountains, north of the Smoky River; Sitka to Ounalashka. (*Hooker, Fl.*)

Var. β, **paniculatus,** Engelm., Mon. Junc., 479.

Collected in the Rocky Mountains along the Bow River, by Bourgeau. (*Engelmann.*)

(2386.) **J. xiphoides,** E. Meyer, Var. γ. **montanus,** Engelm., Mon. Junc., 481.

J. ensifolius, var. *major,* Hook., Fl. II., 191.

Not uncommon in the Rocky Mountains. South Fork of Belly River, 49th parallel; Flathead River, B.C. (*Dawson.*) In brooks in the Cypress Hills, and westward along the Bow River throughout the Rocky Mountains, and northward along the North Saskatchewan, at Fort Pitt and Edmonton; also along Beaver Creek, in the Selkirk Mountains. (*Macoun.*)

Var. *α.* **littoralis,** Engelm., Mon. Junc., 481.

Abundant along the Somas River, at Alberni, and in marshes covered by high tide at the mouth of that river, on the west coast of Vancouver Island, 1887. (*Macoun.*)

Var. *δ.* **macranthus,** Engelm., Mon. Junc., 482.

J. polycephalus, var. *crassifolius,* Hook., Fl. II., 190, in part.

Ounalashka, North West coast, and Cascade Mountains. (*Engelmann.*) Common in ditches and by the margins of brooks, rivers and lakes, near Victoria, Nanaimo, Qualicum and Alberni, Vancouver Island. (*Macoun.*) Nimpkish Lake, Vancouver Island. (*Dawson.*) Fort Wrangel, Alaska. (*Meehan.*) North West coast; frequent. (*Hooker, Fl.*)

Var. *ε.* **triandrus,** Engelm. Mon. Junc., 482.

J. ensifolius, var. *minor,* Hook., Fl. II., 190, in part.

From Ounalashka to the Cascade Mountains. (*Engelmann.*) Abundant on the margins of lakes and by streams, on Vancouver Island, Langford Lake, Horne Lake, and Barclay Sound. (*Macoun.*) Sitka to Ounalashka. (*Hooker, Fl.*)

(2387.) **J. Nevadensis,** Watson, Proced. Am. Acad. XIV., 303.

J. phæocephalus, var. *gracilis,* Engelm., Mon. Junc., 484.

Ladner's Landing, and New Westminister, along the Fraser River, B.C., 1883. (*Fletcher.*) Abundant in marshes at the head of Barclay Sound, and along Chinaman Creek and Somas River that flow into it, on the west coast of Vancouver Island. (*Macoun.*)

(2388.) **J. supiniformis,** Engelm., Mon. Junc., 461.

Stems generally floating in water and often rooting at the nodes. Where the water recedes the plants grow upright and the heads are larger. Small ponds at the mouth of the Somas River, and along Sproat Lake, six miles from Alberni, west side of Vancouver Island, 1887. (*Macoun.*)

638. LUZULA, DC. (WOOD-RUSH.)

(2389.) **L. spadicea,** DC., var. **parviflora,** Meyer, Linnæa, XXII., 399.

L. melanocarpa, var. *β,* Hook., Fl. II., 188.
L. spadicea, Macoun, Cat. No. 1879.

This form is abundant in favourable places from the Atlantic to the

Pacific, but is always found in cool situations. Cumberland Islands, Arctic coast. (*Parry.*) Newfoundland. (*Cormack.*) Nain, coast of Labrador. (*R. Bell.*) Upper Gaspereau, Queen's Co., N.B. (*Wetmore.*) Salt Lake, Anticosti. (*Macoun.*) Mount Albert, Gaspé, Q. (*Macoun. Porter.*) Thunder River, Q. (*St. Cyr.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Common along the north shore of Lake Superior and westward to Rainy Lake, and the Lake of the Woods; abundant in the Rocky Mountains, from Canmore west to Hector; common along small streams in the mountainous parts of Vancouver Island. (*Macoun.*) Goose Creek Mountains, 5,800 feet alt., Cariboo, B.C. (*Bowman.*) Port Etches, Alaska. (*Barclay.*) Sitka, Ounalashka. and Kotzebue Sound. (*Rothr. Alask.*) Fort Wrangel, Alaska. (*Meehan.*) North West America, from the Columbia to Kotzebue Sound. (*Hooker, Fl.*) Greenland. (*Lange.*)

Var. **melanocarpa,** E. Meyer.

L. parviflora, var. *melanocarpa,* Gray, Man. Ed. V., 536.
Juncus melanocarpus, Michx., Fl. I., 190; Pursh, Fl. I., 238.

This form is easily distinguished from the preceding by its dark brown capsules, and the more contracted habit of the inflorescence. Labrador. (*Dr. Morrison.*) St. John, N.B. (*Millman.*) Shore of Lake Superior, at the Pic, and along Current River, Thunder Bay. (*Macoun.*) Oba Lake, Ont.; Hayes River, and west coast of Hudson Bay. (*R. Bell.*) On the higher Rocky Mountains, in the Bow River Pass, and northward to the Peace River Pass, lat. 56°, and west to Fort McLeod, lat. 55°, B.C. (*Macoun.*) Camp Akamina, 49th parallel, South Kootanie Pass, and western summit of the North Kootanie Pass, Rocky Mountains; Klootch-oot-a Lake, B.C.; Lake Lindeman, lat. 60°, and hills north of Finlayson Lake, lat. 61° 40″. (*Dawson.*) Kotzebue Sound. (*Beechy.*) Throughout the wooded country to the prairies of the Rocky Mountains. (*Hooker, Fl.*) Greenland. (*Lange.*)

Var. **subcongesta,** Watson, Bot. Calif. II., 202.

Not uncommon in the mountains near lat. 49°. Western summit of North Kootanie Pass, and in the South Kootanie Pass, Rocky Mountains. (*Dawson.*) A form between this and var. *parviflora* has been gathered at Golden City, in the Columbia Valley. The capsules and sepals are very light colored, and approach the west coast form of the above variety. (*Macoun.*)

(2390.) **L. divaricata,** Watson, Proced. Am. Acad. XIV., 302.

Abundant in deep shade along the mountain brooks at Goldstream, Vancouver Island, and probably common, though overlooked. (*Macoun.*)

Vicinity of Vancouver city, B.C. (*Prof. Fowler.*) This species seems to have very light-colored capsules and sepals, and has a very different cyme from var. *parviflora*, which is well described by the name.

(2391.) **L. pilosa,** Willd.; Hook., Fl. II., 188.

Not uncommon in rich, and sandy woods throughout Ontario, but more sparingly distributed eastward. Newfoundland. (*Reeks.*) Truro, and Windsor, N.S. (*Macoun.*) Common in old fields, N.B. (*Fowler, Cat.*) Gomin-woods, near Quebec. (*St. Cyr.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Thicket a mile west of Prescott, Ont. (*Billings.*) Vicinity of Hamilton, Ont. (*Buchan.*) Thickets at Kingston and London, Ont. (*Millman.*) Sandy woodland near London, Ont. (*Burgess.*) Open woods at Sudbury Junction, and at North Bay, Lake Nipissing; not uncommon in woods at Belleville and numerous places in the adjoining counties; woods at Nipigon, Lake Superior, and on top of a clay bank twenty-five miles up the Kaministiqua River, (*Macoun.*) Canada to the Saskatchewan. (*Hooker, Fl.*)

(2392.) **L. campestris,** Desv., var. α. **vulgaris,** Hook., Fl. II., 188.

Juncus campestris, Willd.; Pursh, Fl. I., 238.

Rather common in dry meadows, or open woods. Newfoundland. (*Cormack.*) New Harbor, Newfoundland. (*Rev. A. Waghorne.*) Halifax, N.S. (*Sommers.*) Magdalen Islands, N.S. (*J. Richardson.*) Truro, Yarmouth, and Kingston, N.S. (*Macoun.*) Dry fields; common, N.B. (*Fowler, Cat.*) Island of Orleans, Q. (*St. Cyr.*) South side of Gaspé Basin, Q. (*J. Bell.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Thicket a mile west of Prescott, Ont. (*Billings.*) Dry woods and meadows at Belleville, and Shannonville, Hastings Co., Ont. (*Macoun.*) Sandy woodland, London, Ont. (*Burgess.*) Thickets at Kingston ,and London, Ont. (*Millman.*) This variety has dense brown heads and is quite distinct in color from the next, which has pale heads of fruit and flowers.

Var. β. **pallescens,** Hook., Fl. II., 188.

Quite common in meadows at Belleville, Ont. (*Macoun.*) Lake Winnipeg to the Saskatchewan, and from the Lake of the Woods to the Rocky Mountains. (*Hooker, Fl.*) Greenland. (*Lange.*)

Var. γ. **comosa,** Hook., Fl. II., 188.

Flowers in a dense solitary brown head. Bear Lake. (*Hooker, Fl.*)

The forms of this and the following species require careful examination and comparison with European species, and indeed the whole genus is much in need of a complete revision.

(2393.) **L. comosa,** E. Meyer. Linnæa. XXII., 413.

Like the preceding species this is subject to many varieties, and being seldom collected its range can scarcely be made out. Not uncommon in old fields and by roadsides at Victoria, and near the summit of Mount Arrowsmith, alt. 5,200 feet, Vancouver Island. (*Macoun.*) Nootka Sound, and Port Mulgrave; from the Rocky Mountains to the Pacific Ocean. (*Hooker, Fl.*)

Var. **macrantha,** Watson, Bot. Calif. II., 203.

As we understand this variety, its sepals are long with a dark brown centre, the end and sides being scarious and white. Abundant at Victoria, Cedar Hill, Nanaimo, and Chase River, Vancouver Island. (*Macoun.*) Coast of Vancouver Island. (*Cowley.*)

Var. **subsessilis,** Watson, Bot. Calif. II., 203.

Much like the preceding, but the heads few or solitary, and almost sessile, approaching the next but easily distinguished by the scarious, brownish bracts. Abundant under oaks at Cedar Hill, Vancouver Island. (*Macoun.*)

Var. **congesta,** Watson, Bot. Calif. II., 203.

L. campestris, var. *congesta*, Meyer. (as regards America.)

Very abundant everywhere along the coast of Vancouver Island, but particularly at Nanaimo; Fort McLeod, B.C., lat. 55°. (*Macoun.*) Around Vancouver city, B.C. (*Prof. Fowler.*)

(2394.) **L. spicata,** Desv.; Hook., Fl. II., 188.

High mountains and far northward. Ungava Bay, Labrador. (*Barnston.*) Ford's Harbor, coast of Labrador; Stupart's Bay, Cape Prince of Wales, and Nottingham Island, off Cape Wolstenholme, Hudson Strait. (*R. Bell.*) Fort George, James Bay. (*J. M. Macoun.*) Kotzebue Sound. (*Beechy.*) Labrador, and Rocky Mountains. (*Hooker, Fl.*) On the summits of the higher Rocky Mountains, at Castle Mt., and Kicking Horse Lake, Bow River valley. (*Macoun.*) Island of St. Lawrence, and Kotzebue Sound. (*Rothr. Alask.*) Greenland. (*Hooker, Arct. Pl.*) A large form found growing in abundance on Mount Arrowsmith, Vancouver Island, at an altitude of 5,200 feet, is referred to this species by Dr. Britton, of Columbia College. Many specimens are almost a foot high, and have a spike from an inch to an inch and a half long. The lowest spikelet is rather remote, and usually has a bract longer than the whole spike. Scales very long and ciliate. (*Macoun.*)

(2395.) **L. hyperborea,** R. Br., var. *α.* **major,** Hook., Fl. II., 188.

Apparently confined to the northern coasts and islands. Cumberland

Islands, Arctic coast. (*Parry.*) Nottingham Island, off Cape Wolstenholme, Hudson Strait. (*R. Bell.*) Between Fort Churchill and Repulse Bay, and thence to Cape Lady Pelly. (*Dr. Rae.*) Point Barrow, Arctic sea. (*John Murdoch.*) Arctic sea-coasts and islands. (*Hooker, Fl.*)

Var. β. **minor,** Hook., Fl. II., 189.

Most elevated of the Rocky Mountains. (*Hooker, Fl.*) Lange, in the Botany of Greenland, refers this variety to *L. arctica, Blytt.* The whole genus seems in great confusion and needs complete revision.

(2396.) **L. arcuata,** Hook., Fl. II., 189.

On high mountains and northward. Cumberland Islands, Arctic coast. (*Parry.*) Ungava Bay, Labrador. (*Barnston.*) Nachvak, coast of Labrador; Cape Chudleigh, and Nottingham Island, off Cape Wolstenholme, Hudson Strait. (*R. Bell.*) Kotzebue Sound. (*Beechy.*) Lancaster Sound, and Port Kennedy. (*Dr. Walker.*) Greenland. (*Lange.*)

CXI. TYPHACEÆ. Cat-tail Family.

639. TYPHA, Linn. Gen. 1040. (CAT-TAIL FLAG.)

(2397.) **T. latifolia,** Linn.; Hook., Fl. II., 170.

Common in marshes and ponds from the Atlantic to the Pacific. We are not aware of any difference of form between the specimens collected in the Atlantic provinces and those collected on Vancouver Island. Throughout Canada to Fort Franklin. (*Hooker, Fl.*)

(2298.) **T. angustifolia,** Linn.; Gray, Man. Ed. V., 480.

Apparently rare in Canada,but possibly overlooked. Beaver Bank, Halifax Co., N.S. (*Sommers, Cat.*) Windsor, N.S. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Marsh near the railway, two miles south of Madoc, Hastings Co., Ont. (*Ami.*) Referred to Newfoundland by Reeks, but of doubtful occurence.

640. SPARGANIUM, Linn. Gen. 1041. (BUR-REED.)

(2399.) **S. eurycarpum,** Engelm.; Gray, Man. Ed. V., 481.

S. ramosum, Huds.; Hook., Fl. II., 169, in part.

Not uncommon but seldom collected. Chiefly along the margins of

ponds and lakes. Newfoundland. (*Reeks.*) Halifax, Pictou, and Oyster Ponds, Guysboro Co., N.S. (*Sommers, Cat.*) Kentville, and Cape Blomidon, N.S. (*Macoun.*) Pictou Co., N.S. (*McKay.*) Common at St. Louis Dam and other places near Ottawa. (*Fletcher, Fl. Ott.*) Abundant in marshes near Prescott Junction, Ont. (*Billings.*) Common in the Bay of Quinte and in the still waters of the Trent River, Northumberland Co., Ont. (*Macoun.*) Marshes, Burlington Bay, Hamilton, Ont. (*Logie.*) London, Ont., and in the Lake of the Woods. (*Burgess.*) Kemptville, Ont. (*Porter.*) Missinaibi River, Ont. (*R. Bell.*) In water at London, and Newboro, Ont. (*Millman.*) Ponds, Cypress Hills, Alberta. (*Macoun.*)

(2400.) **S. androcladum,** Morong. (MS.)

S. ramosum, Smith,; Pursh, Fl. II., 33; Hook., Fl. II., 169, in part.
S. simplex, var. *androcladum,* Engelm. Gray, Man. Ed. V., 481; Macoun, Cat. No. 1722, var. *androcladum.*

References made to *S. eurycarpum,* no doubt, in some cases belong here, but except as regards our own specimens we have no means of determining. Indian Cove, Pictou Co., N.S. (*McKay.*) Norton, N.B. (*Fowler, Cat.*) Lachine Wood, near Montreal, 1821. (*Dr. Holmes.*) Common in the Nation River at Casselman, near Ottawa; in the Bay of Quinte, and not infrequent on the margins of ponds and lakelets in central Ontario. (*Macoun.*) At London, Ont.; and in Lake Joseph, Muskoka, Ont. (*Burgess.*) Not uncommon in marshes near Cedar Hill, and at Nanaimo, Vancouver Island. (*Macoun.*) Cumberland House, on the Saskatchewan. (*Hooker, Fl.*)

Var. **fluctuans,** Morong. (MS.)

S. simplex, var. *fluitans,* Engelm.; Gray, Man. Ed. V., 481

The branched inflorescence includes this form with *S. androcladum.* Marshes, Campbellton, N.B. (*Chalmers.*) Severn River, Keewatin. (*J. M. Macoun.*)

(2401.) **S. simplex,** Huds.; Pursh, Fl. I., 34; Hook., Fl. II., 169.

S. simplex, Huds., var. *Nuttallii,* Engelm.; Gray, Man. Ed. V., 481.

Under one form or another this species extends from the Atlantic to the Pacific. Newfoundland. (*Miss Brenton.*) Labrador. (*Butler.*) Windsor, N.S. (*Sommers, Cat.*) Pictou Co., and Magdalen Islands, N.S. (*McKay.*) Smith's Mills, near Truro, N.S. (*Campbell.*) Marshy brook at Windsor, N.S; Black Creek, near Louisburg, Cape Breton. (*Macoun.*) Caledonia, Guysboro Co., N.S. (*Faribault.*) Salt Lake, Anticosti, and in Fox River, Gaspé, Q. (*Macoun.*) Ouatchechow, Q. (*St. Cyr.*) In wet places and borders of lakes, Bass River, and Welsford; St.

John Co., N.B. (*Fowler, Cat.*) Meadows near Gregory's, Montreal, 1821. (*Dr. Holmes.*) Durham, Q. (*McGill Coll. Herb.*) Vicinity of Ottawa; common. (*Fletcher, Fl. Ott.*) Muddy Creek, near Huckleberry Rapids, Argenteuil Co., Q. (*D'Urban.*) Conway's Creek and other places; common at Prescott, Ont. (*Billings.*) Mud, in the bed of small streams and along lakes and ponds in central Ontario. (*Macoun*) In water, London, and Hatchley, Ont. (*Burgess.*) · Abundant in the mouths of the Kaministiqua River, and in marshes, Nipigon Bay, Lake Superior. (*Macoun.*) Oba Lake, Ont.; and Nelson River, Keewatin. (*R. Bell.*) Thunder Creek, at the Elbow of South Saskatchewan, Assiniboia; abundant in marhsy places, along lakes and ponds throughout Vancouver Island, from Victoria to Qualicum, on the east coast; and in the Somas and Stamp rivers at Alberni, on the west side of the island. (*Macoun.*) Ilgacho Brook, B.C. (*Dawson.*) Throughout Canada to Fort Franklin; abundant. (*Hooker, Fl.*)

(2402.) **S. affine,** Schnitzlein.

S. natans, Linn.; Pursh, Fl. II., 34; Hook., Fl. II., 169.

S. simplex, Huds., var. *angustifolium,* Gray, Man. Ed. V., 481.

This species is doubtless overlooked in many sections of the country, as it does not seem to be rare; when looked for it can easily be distinguished by its narrow floating leaves. Newfoundland. (*Reeks.*) North Sydney, Cape Breton, (*Macoun.*) Halifax, N.S. (*Sommers, Cat.*) Pictou, Co., N.S. (*McCulloch.*) Caledonia, Guysboro Co., N.S. (*Faribault.*) Salmon River; Kennebeccasis and Bass rivers, N.B. (*Fowler, Cat.*) In marshes, Salt Lake, Anticosti; mouth of the Restigouche River, and Grand Vallée, Gaspe, Q.; muddy border of Partridge Lake, Addington Co., Ont.; abundant in the still waters of the Trent, Seymour, Northumberland Co., Ont., and in the middle channel at the mouth of the Kaministiqua, Lake Superior. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*) Lake Joseph, Muskoka Co., Ont. (*Burgess.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Lake of the Woods. (*Dawson.*) Kotzebue Sound, and Ounalashka. (*Rothr. Alask.*) Alpine lakes of the Rocky Mountains; rare, (*Hooker, Fl.*)

(2403.) **S. hyperboreum,** Laest., var. **Americanum,** Beeby.

Apparently a northern species, and evidently not rare in suitable localities. Labrador. (*Butler.*) In a ditch near Louisburg, Cape Breton Island; in a marsh at Ellis Bay, Anticosti. (*Macoun.*) Fort George, James Bay. (*J. M. Macoun.*) Fort Churchill, Hudson Bay. (*R. Bell.*)

(2404.) **S. minimum,** Fries.; Gray, Man. Ed. V., 432.

This and *S. hyperboreum* have hitherto been confounded in our collec-

tions, but are now separated. Campbellton, N.B. (*Fowler, Cat.*) Not rare in swamps near Belleville, Hastings Co., and in the mud of small ponds in Seymour, Northumberland Co., Ont.; Red Deer Lake, at the head of Lake Winnipegoosis, and in marshes along the Porcupine Mountain, Man.; not rare in pools, growing on mud, Columbia Valley at Donald, and westward up Beaver Creek, in the Selkirk Mountains. (*Macoun.*)

CXII. AROIDEÆ. Arum Family.

641. ARISÆMA, Martius, (INDIAN TURNIP.)

(2405.) **A. triphyllum,** Torr., Bot. N. York, II., 239.

Arum triphyllum, Linn.; Hook., Fl. II., 168; Pursh, Fl. II., 399.
A. atrorubens, Ait. Kew. III., 315.

Rich low woods, rather common. Hantsport, Pictou, Middletown, and Truro, N.S. (*Sommers, Cat.*) Truro, and Annapolis, N.S. (*Macoun.*) Common; Bass River, Woodstock; St. John and King's Co's., N.B. (*Fowler, Cat.*) Campbellton, N.B. (*Chalmers.*) Bathurst, N.B. (*McGill Coll. Herb.*) Papineau Wood, near Montreal, 1821. (*Dr. Holmes.*) Montreal Mountains. (*McGill Coll. Herb.*) Common in low rich woods, Argenteuil Co., Q. (*D'Urban.*). McKay's woods, Dow's swamp, and other localities near Ottawa. (*Fletcher, Fl. Ott.*) Very common in woods at Prescott, Ont. (*Billings.*) Very common in all low rich woods throughout central Ontario. (*Macoun.*) Common around Hamilton, Ont. (*Logie.*) Vicinity of London, Ont.; low rich woods Emerson, Man. (*Burgess.*) Opposite Grand Island, Lake Superior. (*R. Bell.*)

(2406.) **A. Dracontium,** Schott. Melet. I., 17.

Arum Dracontium, Willd.; Pursh, Fl. II., 400; Michx., Fl. II., 188.

Apparently confined to a small area in south-western Ontario. Low rich river flats, London, Ont. (*Burgess.*)

642 PELTANDRA, Rafin. (ARROW ARUM.)

(2407.) **P. Virginica,** Raf. Journ. de Phys., 89, page 103.

Arum Virginicum, Linn.; Pursh, Fl. II., 399.
Calla Virginica, Michx., Fl. II., 187.

Apparently rare in Ontario. Very abundant in a marsh about a mile beyond "the Ferry," Prince Edward Co., near Belleville, Ont. (*Macoun.*)

643. CALLA, Linn. (WATER ARUM)

(2408.) **C. palustris,** Linn.; Hook., Fl. II., 169; Pursh, Fl. II., 399.

Rather common in marshes and spring brooks. Windsor, and Pictou, N.S. (*Sommers, Cat.*) Straits of Canso, Guysboro Co., N.S. (*Macoun.*) In cold muddy places; Grand Falls, St. Francis River, and Quispamsis, Andover, Chipman, Clifton, Fredericton, and Bathurst road, north of Miramichi, N.B. (*Fowler, Cat.*) Common at Rivière du Loup, Q. (*Thomas.*) Dow's swamp and other localities near Ottawa. (*Fletcher, Fl. Ott.*) Very common at Prescott, Ont. (*Billings.*) Marshes and ponds, rather common in central Ontario. (*Macoun.*) Lake Medad, near Hamilton, Ont. (*Logie.*) In shallow water at London, Ont.; Lake Island, Lake Joseph, Muskoka Co., Ont., and Lake of the Woods. (*Burgess.*) London and Newboro, Ont. (*Millman.*) Opposite Gros Cap, Lake Superior. (*R. Bell.*) Current River, Lake Superior, and in Lake Hannah, Nipigon River; also in marshes at the base of the Porcupine Mountain, Man. (*Macoun.*) Winnipeg, and North-west Angle Road. (*Dawson.*) Rupert River, N.E.T.; Lake Winnipeg and up Beren's River and down the Severn River, Keewatin. (*J. M. Macoun.*) Oba Lake, Ont. (*R. Bell.*) Canada to the Saskatchewan and Hudson Bay. (*Hooker, Fl.*)

644. LYSICHITUM, Schott. (WESTERN SKUNK CABBAGE)

(2409.) **L. Kamtschatcense,** Schott., Prodr. Aroid., 421.

Arctiodracon Camtschaticum, Gray, Smithson. Contrib. (N Series) IX. 409.
Symplocarpus Kamtschaticus, Bong.; Hook., Fl. II., 169.

Very abundant in Beaver Creek valley, from the Columbia to Bear Creek in the Selkirk Mountains; also abundant at Revelstoke, on the Columbia, and in the low rich woods below Yale, in the Fraser Valley; very common in wet places in many parts of Vancouver Island. (*Macoun.*) Vicinity of Victoria, Vancouver Island. (*Fletcher.*) North West America. Sitka. (*Hooker, Fl.*) Fort Wrangel, Alaska. (*Meehan.*)

645. SYMPLOCARPUS, Salisb. (SKUNK CABBAGE.)

(2410.) **S. fœtidus,** Salisb.; Hook., Fl. II., 169.

Pothos fœtidus, Pursh, Fl. II., 398; Michx., Fl. II., 186.

Rather local but abundant where it grows. Swamps, or along

the base of hills where springs abound. Abundant near the lighthouse, Cape Forteau, Yarmouth, N.S. (*Macoun & Burgess.*) Lake Utopia, Milkish, King's Co.; Nigadoo River, Gloucester Co.; near the Episcopal Church, Hammond River, N.B. (*Fowler, Cat.*) Common at Quebec. (*Thomas.*) Vicinity of Montreal, 1821. (*Dr. Holmes.*) In a swamp near Perth, Lanark Co., Ont. (*R. B. Whyte.*) In a deep dell two miles north of Warkworth, Northumberland Co., Ont.; abundant around St. Thomas, and Port Stanley, Ont.; very common on Michipicotin Island, Lake Superior. (*Macoun.*) Oaklands, near Hamilton, Ont. (*Logie.*) Low grounds, London, Ont. (*Burgess, Millman.*) Vicinity of Toronto. (*Burgess.*)

646. ACORUS, Linn. (SWEETFLAG)

(2411.) **A. Calamus,** Linn.; Hook., Fl. II., 167; Pursh, Fl. I., 235.

Abundant in marshes by rivers and lakes. Pennant Harbor, Halifax Co., N.S. (*Sommers.*) Abundant in a marsh at Truro and near Yarmouth, N.S. (*Macoun.*) Common on the borders of lakes and ponds, Kouchibouguac, Kennebeccasis, and Hopewell, N.B. (*Fowler, Cat.*) Shallow lake, Fraserville, Q. (*Thomas.*) Sandy banks of the River Rouge, Argenteuil Co., Q. (*D'Urban.*) Abundant in marshes around Ottawa. (*Fletcher, Fl. Ott.*) Margin of St. Lawrence River, and small streams near Prescott, Ont. (*Billings.*) Common in marshes of the Bay of Quinte, and on the shores of Lake Ontario and all still waters inland, north of the lake. (*Macoun.*) Vicinity of Hamilton, (*Buchan.*) Chatham, Ont. (*McGill Coll. Herb.*) Swamps at Kingston, Ont. (*Burgess, Millman.*) Point Pelee marshes, Lake Erie. (*Burgess.*) Sydenham River, Owen Sound, Ont. (*Macoun.*) Oba River, Ont. (*R. Bell.*) Lake of the Woods. (*Dawson, Burgess.*) Canada to the Saskatchewan. (*Hooker, Fl.*)

CXIII. LEMNACEÆ. DUCKWEED FAMILY.

647. LEMNA, Linn. (DUCKWEED)

(2412.) **L. trisulca,** Linn.; Hook., Fl. II., 169; Pursh, Fl. I., 22.

Abundant in many ponds from the Atlantic to the Pacific. Ponds Windsor, N.S. (*Macoun.*) Petitcodiac, N.B. (*Fowler, Cat.*) Abundant around Ottawa. (*Fletcher, Fl. Ott.*) Conway's Creek and other places near Prescott Ont.; common. (*Billings.*) Very abundant in

all still waters throughout central Ontario. (*Macoun.*) Common in marshes at Hamilton, Ont. (*Buchan.*) Marshes at Kingston, Ont. (*Millman.*) Small lakes, Red River prairie and Lake of the Woods, 49th parallel. (*Dawson.*) Ponds, Souris Plains, Assiniboia. (*J. M. Macoun.*) In ponds throughout the prairie region, on the Cypress Hills and north to Peace River and Little Slave Lake; common in ponds and quiet rivers at Cedar Hill, Nanaimo, and Alberni, Vancouver Island. (*Macoun.*) Canada to lat. 58°. (*Hooker, Fl.*)

(2413.) **L. minor,** Linn.; Hook., Fl. II., 169.; Pursh, Fl. I., 22.

Frequent in ponds from the Atlantic to the Pacific. Magdalen Islands, N.S. (*McKay.*) In ponds at Truro, and in ditches at Pictou, N.S. (*Macoun.*) Petitcodiac, N.B. (*Fowler, Cat.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Conway's Creek and other places near Prescott, Ont.; common. (*Billings.*) Very common in ditches and shallow pools throughout central Ontario. (*Macoun.*) Marshes near Hamilton, Ont. (*Buchan.*) Common in the Lake of the Woods and in small ponds on the Red River prairie. (*Dawson.*) Abundant in pools throughout the whole prairie region, extending northward to the Athabasca and Peace rivers, and westward to Quesnel, on the Fraser River, and throughout Vancouver Island. (*Macoun.*) Canada to lat. 58°. (*Hooker, Fl.*)

(2414.) **L. polyrrhiza,** Linn.; Hook., Fl. II., 169; Pursh, Fl. I., 22.

Spirodela polyrrhiza, Schleid.; Coult. Rocky Mount. Flora, 360.

Scarcely so common as the other, but just as widely distributed. In still water near Louisburg, Cape Breton. (*Macoun.*) Sussex, N.B. (*Fowler, Cat.*) Common around Montreal, 1821. (*Dr. Holmes.*) Common in still water around Ottawa. (*Fletcher, Fl. Ott.*) Conway's Creek and other localities near Prescott, Ont. (*Billings.*) In ponds, Gananoque, Ont. (*Prof. Fowler.*) Marshes and ponds everywhere throughout central Ontario, especially in the still waters of the River Trent, and Rice Lake. (*Macoun.*) Marshes at Hamilton, Ont. (*Buchan.*) Pelee Point, Lake Erie. (*Burgess.*) Stagnant pools near London, Ont. (*Burgess, Millman.*) Occasionally in pools and still waters west of Porcupine Mountain, Man., and westward to Little Slave Lake; rather rare on Vancouver Island, but not uncommon at Alberni, on the west coast. (*Macoun.*) Cumberland House, on the Saskatchewan. (*Hooker, Fl.*)

648. WOLFFIA, Horkel. (WOLFFIA)

(2415.) **W. Columbiana,** Karsten.; Gray, Man. Ed. V., 420.

Abundant in marshes of the Bay of Quinte, near Belleville, Ont. (*Macoun.*) In the marsh at the head of Burlington Bay, Hamilton, Ont. (*Buchan.*)

(2416.) **W. Brasiliensis,** Weddell.; Gray, Man. Ed. V., 480.

Growing with the preceding and *Lemna minor*, in the "Big Marsh" one mile beyond "the Ferry," Prince Edward Co.; near Belleville, on the Bay of Quinte, Ont. (*Macoun.*) In the marsh at the head of Burlington Bay, Hamilton, Ont. (*Buchan.*)

Specimens of this genus are distinguished from any form of *Lemna* by the absence of roots. Hitherto they have been rarely detected, but it is less from their absence than from their small size.

CXIV. ALISMACEÆ. WATER-PLANTAIN FAMILY.

649. ALISMA, Linn. Gen. 460. (WATER-PLANTAIN)

(2417.) **A. Plantago,** Linn., Var. **Americanum,** Gray, Man. Ed. V., 492.

A. Plantago, Linn.; Michx., Fl. I., 218; Hook., Fl. II., 168.

A. natans, Pursh, Fl. I., 253; Hook., Fl. II., 168.

A. trivialis, Pursh, Fl. I., 252.

Rather common in ditches and borders of streams from the Atlantic to the Pacific. It varies greatly in the form of its leaves, but the varieties are not recognized. Windsor, Grand Lake, Halifax, Pictou, and Truro, N.S. (*Sommers, Cat.*) Common in wet places, N. B. (*Fowler, Cat.*) Abundant throughout Quebec and Ontario, and extending westward to British Columbia. On the prairie region its leaves often become linear, and float on the surface of the still brooks south of Battleford.

We have doubtfully referred the *A. natans*, Pursh, to this species, as from the meagre description it *seems* to belong here. It was gathered in "stagnant waters of the St. Lawrence" by Pursh himself.

650. SAGITTARIA, Linn. Gen. 1067. (ARROW-HEAD)

(2418.) **S. variabilis,** Engelm.; Gray, Man. Ed. Ed. V., 493.

S. sagittifolia, Pursh, Fl. II., 395; Hook., Fl. II., 167.

Under its various forms this species extends across the continent though it is apparently quite rare, if present at all, in British Columbia. It seems to be common in all the eastern provinces, but has not been separated into varieties, and hence no special reference can be made to them. Our specimens show the following varieties:—

Var. **obtusa,** Engelm.; Gray, Man. Ed. V., 493.

S. obtusa, Willd.; Pursh, Fl. II., 396.

Leaves large and obtuse, flowers dicœcious. Abundant in water in the Bay of Quinte, at Belleville, Ont. (*Macoun.*) Oba Lake, Ont. (*R. Bell.*) Vicinity of Ottawa, Ont. (*Ami.*)

Var. **latifolia,** Engelm.; Gray, Man. Ed. V., 493.

S. latifolia, Willd.; Pursh, Fl. II., 396.
S. sagittifolia, var. *macrophylla,* Hook., Fl. II., 167.
S. sagittifolia, Michx.. Fl. II., 189.

Campbellton, N.B. (*Chalmers.*) In lakes and rivers, not uncommon, Hastings Co., Ont. (*Macoun.*) North-west coast, where it is called "Wapatoo," and where the roots are eaten by the Chinooks. (*Hooker, Fl.*)

Var. **hastata,** Engelm.; Gray, Man. Ed. V., 493.

S. sagittifolia, var. 3, *angustifolia,* Hook. Fl. II., 167, in part.
S. hastata, Pursh, Fl. II., 396.

This variety includes all the larger forms with acute and sagittate leaves, and may be called the common variety throughout the country. There are three forms of it well represented in our herbarium.

(*a.*) Has large very elongated leaves, with very acute and divaricate lobes, flowers dicœcious. Nation River, at Casselman, near Ottawa, and in Brigham's Creek, near Hull, Q. (*Macoun.*) London, Ont. (*Burgess.*) River St. Charles, Q. (*St. Cyr.*)

(*b.*) This form is easily distinguished from (*a*), by its much smaller and shorter leaves, abruptly acute or almost obtuse point, and short very acute less divaricate lobes. Muskeg Island, Lake Winnipeg. (*J. M. Macoun.*) In small streams, near the Hand Hills, Alberta. (*Macoun.*) South Antler Creek, Assiniboia. (*Burgess.*)

(*c.*) This is a shallow water form with small hastate leaves, scarcely divergent, and very short lobes and always monœcious flowers. Grand Vallée, Gaspé, Q.; Bay of Quinte, at Belleville, Ont.; mouth of the Nipigon River, Lake Superior. (*Macoun.*) Missinaibi River, Ont. (*R. Bell.*)

Var. **diversifolia,** Engelm.; Gray, Man. Ed. V., 393.

Some leaves of this form are lanceolate and others are sagittate. Moose Mountain Creek, Man. (*J. M. Macoun.*) Ponds in the Eagle Hills, near Battleford, N.W.T. (*Macoun.*)

Var. **angustifolia,** Engelm.; Gray, Man. Ed. V., 393.

The very long, narrow and divergent lobes of the narrow leaves characterize this form. Marshes near Cape Blomidon, N.S.; Nation River, at Casselman, near Ottawa, and in the Bay of Quinte, at Belleville, Ont. (*Macoun.*) In shallow water at Port Dover, Ont. (*Millman.*) London, and Port Cockburn, Muskoka Co., Ont. (*Burgess.*)

Var. **gracilis,** Engelm.; Gray, Man. Ed. V., 393.

S. sagittifolia, var. *angustifolia,* Hook., Fl. II., 167, in part.
S. gracilis, Pursh, Fl. II., 396.

River St. Pierre, near Montreal, 1821. (*Dr. Holmes.*) River St. Charles, Quebec. (*St. Cyr.*) Ponds in the Eagle Hills, near Battleford, N.W.T. (*Macoun.*)

Var. **pubescens,** Engelm.; Gray, Mar. Ed. V., 393.

Leaves pubescent as well as the upper part of the petiole and scape. Bay of Quinte, at Belleville, Ont. (*Macoun.*)

(2419.) **S. calycina,** Engelm. Var. **spongiosa,** Engelm.; Gray, Man. Ed. V., 393.

Near the head of the tide in Richibucto River and at Rothesay; also Tobique River, N.B. (*Fowler, Cat.*)

(2420.) **S. heterophylla,** Pursh, Fl. II., 396.

S. sagittifolia, var. 3, *angustifolia,* Hook., Fl. II., 167, in part.

Apparently rare eastward but not uncommon in waters bordering on the St. Lawrence and Great Lakes. Abundant in numerous places around Ottawa. (*Fletcher, Fl. Ott.*) Not uncommon in the Bay of Quinte, at Belleville, and at Weller's Bay, Lake Ontario. (*Macoun.*)

Var. **rigida,** Engelm.; Gray, Man. Ed. V., 394.
S. rigida, Pursh, Fl. II., 397; Hook., Fl. II., 397.
Apparently the deep water form of the Great Lakes. West Lake and Consecon Lake, Prince Edward Co., Ont. (*Macoun.*) Wet sandy shore at Belleville, Ont. (*Burgess.*)

(2421.) **S. graminea,** Michx., Fl. II., 190; Pursh, Fl. II., 397.
S. sagittifolia, var. 4, *simplex,* Hook., Fl. II., 167, in part.
This seems to be a northern and eastern species. Newfoundland. (*Miss Brenton.*) Small lake near North Sydney, Cape Breton Island. (*Macoun.*) In water at Rothesay, and in a small lake near Richibucto; Grand Lake, and Upper St. John, and Clifton, N.B. (*Fowler, Cat.*) Gull River, Victoria Co., Ont. (*Macoun.*) Wet sandy shore of Lake Joseph, Port Cockburn, Muskoka Co., Ont. (*Burgess.*)

651. ECHINODORUS, Richard.

(2422.) **E. parvulus,** Engelm.; Gray, Man. Ed. V., 492.
E. subulatus, Engelm. (?) Agassiz, Lake Superior, 176.
North shore of Lake Superior. (*Agassiz.*) We know nothing of this species and enter it on the authority of Agassiz.

652. DAMASONIUM, Juss. Gen. 46.

(2423.) **D. Californicum,** Torrey, Pacif. R. Rep. IV., 142.
This species, or the one taken for it was growing in abundance in Somas River, at the head of the Alberni Canal, on the west coast of Vancouver Island. The large white flowers were especially attractive and caused me to stop in midstream and pull in shore to gather the plant. Owing to the great heat of the day these became so shrivelled in a short time as to be worthless for specimens, and were thrown away. Only one immature specimen was brought away, August 13th, 1887. (*Macoun.*)

CXV. NAIADACEÆ. Pond-weed Family.

653. TRIGLOCHIN, Linn. Gen. 453. (ARROW-GRASS.)

(2424.) **T. palustre,** Linn.; Hook., Fl. II., 168; Pursh, Fl. II., 247.
Not uncommon in wet sand along lakes and by ponds. Labrador.

(*Dr. Morrison.*) Rather rare at Belledune, Carleton, Andover and Tobique River, N.B. (*Fowler, Cat.*) Marshes, Quebec. (*Pringle.*) Cacouna, St. Lawrence River. (*Burgess.*) Border of a marsh, Salt Lake, Anticosti; salt marsh, Cape Rosier, Gaspé, Q.; margin of the marshes around Presqu'ile Point, and Wellington Beach, Lake Ontario; quite common on the borders of brackish ponds, throughout the prairie region and northward to Battleford, Edmonton, and Little Slave Lake. (*Macoun.*) Charlton Island, James Bay, and Severn River, Keewatin. (*J. M. Macoun.*) Griswold, Man. (*Burman.*) Marshes between Carleton House, and Fort Edmonton, on the Saskatchewan. (*Hooker, Fl.*) Ounalashka and Sitka. (*Rothr. Alask.*) Bartlett Bay, Alaska. (*Meehan.*) Abundant in swamps and springy places from Morley westward to Hector, in the Rocky Mountains. (*Macoun.*)

(2425.) **T. maritimum,** Linn.; Hook., Fl. II., 168; Michx., Fl. I., 208; Pursh, Fl. I., 247.

Common in sea marshes on the Atlantic and Pacific coasts, and in the saline marshes of the prairie region. New Harbor, Newfoundland. (*Rev. A. C. Waghorne.*) Labrador. (*Dr. Morrison.*) Windsor, Halifax and Pictou, N.S. (*Sommers, Cat.*) Salt marsh at Truro, N.S., and North Sydney, Cape Breton. (*Macoun.*) Common in salt marshes along the coast; also at Carleton, N.B. (*Fowler, Cat.*) Salt Lake, Anticosti, and marshes along the Gaspé coast from Cape Rosier to Metis, Q. (*Macoun.*) Mingan Islands, St. Lawrence River. (*St. Cyr.*) Common all around James Bay. (*J. M. Macoun.*) York Factory and Fort Churchill, Hudson Bay. (*R. Bell.*) Salt marshes, Red Deer River, at the head of Lake Winnipegoosis; also at the source of the Qu'Appelle, and westward in salt marshes across the prairie to the Rocky Mountains at Canmore, Bow River valley. (*Macoun.*) Border of a saline pool near Wood Mountain, 49th parallel. (*Dawson.*) Abundant in marshes along the coast of Vancouver Island, from Victoria northward, and on the west coast, at Barclay Sound. (*Macoun.*) Sitka. (*Rothr. Alask.*) Fort Wrangel, Alaska. (*Meehan.*) Cumberland House to Rocky Mountains; and North-west coast. (*Hooker, Fl.*)

Var. **elatum,** Gray, Man. Ed. V., 491.

Peat bogs and borders of fresh water marshes. At the Gas Spring, Mer Bleue, near Ottawa. (*Fletcher, Fl. Ott.*) Marshes at the head of the Bay of Quinte, and in the "Big Swamp," Murray, Northumberland Co., Ont.; shore of Lake Huron, at Chicken Bay; on Pie Island, and at Red Rock, Lake Superior. (*Macoun.*) Swampy river flat, Southampton, Lake Huron, Ont. (*Burgess.*) Oba Lake, Ont. (*R. Bell.*) Lake Mistassini, N.E.T., and Severn River, Keewatin. (*J. M. Macoun.*)

Swamps, Winnipeg and North-west Angle Road; near Pincher Creek, Alberta; at the Columbia Lakes and in the Columbia Valley, B.C. (*Dawson.*) Rather common in fresh water marshes along Beaver Creek Valley, at Stony Creek, Selkirk Mountains. (*Macoun.*)

654. SCHEUCHZERIA, Linn. Gen. 482. (SCHEUCHZERIA)

(2426.) **S. palustris,** Linn.; Michx., Fl. I., 209; Pursh, Fl. I., 247; Hook., Fl. II., 168.

Rather rare in most localities. Soft peat bogs, Richibucto, Fredericton, Tay's Mills, York Co.; St. Stephen, and McAdam Junction, N.B. (*Fowler, Cat.*) Mer Bleue, near Ottawa. (*Fletcher, Fl. Ott.*) Marsh near Prescott Junction, Ont.; rare. (*Billings.*) In a little pond in north-western Seymour, and in a peat bog five miles north of Colborne, Northumberland Co.; very abundant along Gull Lake, Victoria Co., Ont. (*Macoun.*) Mossy bogs, London, Ont. (*Burgess. Millman.*) Parry Sound, Georgian Bay. (*Burgess.*) Between Trout Lake and the Severn River, Keewatin. (*J. M. Macoun.*) Between Hudson Bay and Cumberland House; and upon "The Height of Land," Rocky Mountains. (*Hooker, Fl.*)

655. LILÆA, Humb. & Bonpl.

(2427.) **L. subulata,** HBK. Nov. Gen. I., 222.

Heterostylus gramineus, Hook., Fl. II., 171.

Abundant in mud between high and low water, Somas River, Alberni, west coast of Vancouver Island. Water always fresh. (*Macoun.*)

656. POTAMOGETON, Linn. Gen. 174. (POND-WEED)

(2428.) **P. natans,** Linn.; Michx., Fl. I., 101; Pursh, Fl. I., 120; Hook., Fl. II., 171.

Quite common in lakes, ponds, and stagnant pools, throughout the country. Cow Bay, and Halifax, N.S. (*Sommers, Cat.*) Marshes near Cape Blomidon, N.S., and in lakelets, North Sydney, Cape Breton; in a pond at Salt Lake, Anticosti, and in lakelets along the Gaspé coast Q. (*Macoun.*) In slow flowing waters, Salmon River, Kent Co., and Clifton, N.B. (*Fowler, Cat.*) River St. Pierre, near Montreal, 1821. (*Dr. Holmes.*) Abundant in the River Rouge, in quiet places, Argen-

teuil Co., Q. (*D'Urban.*) Abundant around Ottawa. (*Fletcher, Fl. Ott.*) Railroad Bay, near Prescott, Ont. (*Billings.*) Very common in nearly all still waters throughout central Ontario. (*Macoun.*) Burlington Bay, near the beach, Hamilton, Ont. (*Logie.*) In still water at Kingston, Ont. (*Millman.*) Marshes at Point Edward, Lake Huron. (*J. M. Macoun.*) Still waters, Owen Sound, Ont., and in the Kaministiqua River, fifteen miles from its mouth, and in Lake Hannah, Nipigon River. (*Macoun.*) Lake Missinaibi, Ont. (*R. Bell.*) Lake of the Woods. (*Dawson.*) Not uncommon in ponds throughout the prairie region and northward to Lake Athabasca; not uncommon in Lost Lake, Shawnigan Lake, Horne Lake and Sproat Lake, Vancouver Island. (*Macoun.*) Near Victoria, Vancouver Island. (*Fletcher.*) Sitka. (*Rothr. Alask.*) Stagnant waters, Canada to Hudson Bay. (*Hooker, Fl.*)

Var. **prolixus,** Koch.; Gray, Man. Ed. V., 485.

P. natans, var β. (?) Hook., Fl. II., 171.

Collected in flowing water near Ottawa. (*McGill Coll. Herb.*) A form approaching this variety was sent from London, Ont., by Burgess (*Macoun.*) North West America. (*Hooker, Fl.*) Specimens should be gathered of all forms.

(2429.) **P. Oakesianus,** Robbins, Gray, Man. Ed. V., 485.

Apparently a rare species in Canada. In marshes at Ellis Bay, Anticosti, 1883. (*Macoun.*)

(2430.) **P. Claytonii,** Tuckerman, Amer. Journ. Sci. XLV., 38.

Not uncommon but seldom collected. Hampton, Salmon River, and Norton, N.B.; rather common. (*Fowler, Cat.*) In flowing water at Hull, Q.; abundant in streams, North Hastings; common in Gull River, between Gull Lake and Minden, Victoria Co.; in Gull Lake, Barrie, Addington Co.; also in the river connecting Lake Isaac and Sky Lake, Bruce Co., Ont. (*Macoun.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Blackstone Lake, Muskoka, Ont. (*Burgess.*)

(2431.) **P. Vaseyi,** Robbins, Gray, Man. Ed. V., 485.

Apparently rare in Canada. Crow River, above the dam at the Iron Works, Marmora, July 19th, 1864; Big Mud Turtle Lake, Gull River, Victoria Co., Ont. (*Macoun.*) Rideau Canal, Ottawa. Form with floating leaves and fruit. (*Fletcher, Fl. Ott.*) In 1865 this species was sent to Sir William Hooker as *P. diversifolius,* Barton, and believed by him to be that species, but later investigation showed that Barton's species went with *P. hybridus.* About the same time

specimens were sent to Mr. W. M. Canby and Dr. Vasey, under the name mentioned above, and are likely in their collections now.

(2432.) **P. Spirillus,** Tuckerman, Amer. Journ. Sci. VI. (2,Ser.) 228.

P. diversifolius, Hook., Fl. II., 172.

A lovely species growing in flowing water, chiefly in the Laurentian districts of Ontario. In the Kennebeccasis at Norton; Lake Utopia and Salmon River, N.B. (*Fowler, Cat.*) Abundant in the Grand River, at Ottawa. (*Fletcher, Fl. Ott.*) In flowing water at Hull, Q.; in numerous streams, North Hastings, at Partridge Lake, Grimpsthorpe and in Crow River at Marmora Iron Works; Gull River, at Elliott's Falls, and in Mountain Lake above Minden, Victoria Co., Ont. (*Macoun.*) Norway House, head of Lake Winnipeg, to Canada. (*Hooker, Fl.*)

(2433.) **P. hybridus,** Michx., Fl. I., 101.

P. setaceus, Pursh, Fl. I., 120.

P. filiformis, Pursh, Herb.; Tucker. Amer. Journ. Sci. VI. (2, Ser.) 230.

St. James, and St. Stephens, N.B. (*Vroom.*) Although we strongly suspect that the plants referred here are *P. Spirillus,* there is no reason to doubt the occurrence of the species so far north.

(2434.) **P. rufescens,** Schrader; Hook., Fl. II., 172.

P. fluitans, Pursh, Fl. I., 120.

P. natans, var. *fluitans,* Torrey.; Bot. N. York II., 254.

Apparently a rare but widely diffused species. St. Stephen, N.B. (*Vroom.*) In flowing waters, Truro, N.S.; River Ste. Anne des Monts, Gaspé, Q.; abundant in flowing water in the River Trent, at the "Narrows" and in Crow River at Marmora Iron Works; also in the North River, Belmont and in Big Bushkong Lake, Victoria Co., Ont.; Current River, Lake Superior. (*Macoun.*) River Mistassini, near Lake St. John, Q. (*Michaux.*) Rapids of the Niagara River, near Bath Island. (*Tuckerman.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Michipicotin River, Ont., and Nelson River, Keewatin. (*R. Bell.*) Abundant in the mill stream at Nanaimo, Vancouver Island. (*Macoun.*) Ounalashka. (*Rothr. Alask.*) Stagnant waters, Canada to Hudson Bay. (*Hooker, Fl.*)

(2435.) **P. lonchites,** Tuckerman, Amer. Journ. Sci. VI. (2, Ser.) 226.

Apparently very rare or overlooked. Tobique Lakes, N.B. (*Hay.*) Abundant at Ottawa. A form with remarkably long stipules. (*Fletcher, Fl. Ott.*) In ponds, London. Ont. (*Burgess.*) Niagara Rapids, near Bath Island, Niagara River. (*Tuckerman.*)

(2436.) **P. ampilfolius,** Tuckerman, Amer. Journ. Sci. VI. (2, Ser.) 226.

Not rare in deep and still water, but seldom collected. In the mill pond at Stirling; and Elziver, Hastings Co.; Gull Lake, Barrie, Addington Co.; at the lower end of Big Bushkong Lake, Victoria Co., and in the Potawatamie River, above Jones Falls, Owen Sound, Ont. (*Macoun.*) In water, Parry Sound, Georgian Bay. (*Burgess.*) King's Mere and Meech's Lake, in the Chelsea Mountains, near Ottawa. (*Fletcher, Fl. Ott.*) Missinaibi River and Lake, Ont. (*R. Bell.*) Marshes, Burlington Bay, Hamilton, Ont. (*Logie.*) Niagara River, on the Canadian side. (*Tuckerman.*) Near Victoria, Vancouver Island. (*Fletcher.*)

(2437.) **P. gramineus,** Linn.; Gray, Man. Ed. V., 487.

P. heterophyllus, Schreb.; Hook., Fl. II., 172; Pursh, Fl. I., 120.

Common in streams from the Atlantic to the Pacific. In flowing water at Coal Branch, Kent Co.; Tobique River, and Salmon River, N.B. (*Fowler, Cat.*) Lake Utopia, N.B. (*Wetmore.*) Little Tobique Lake, N.B. (*Hay.*) Titusville, N.B. (*Brittain.*) Flowing water at Truro, N.S.; Salt Lake, Anticosti; in a rapid stream between Westwood and Peterboro, Ont; vicinity of Belleville, Hastings Co., Ont.; River St. Clair, near Windsor, Ont. (*Macoun.*) Wabigoon River, west of Lake Superior. (*Fletcher.*)

Var. (near) **graminifolius,** Fries.

In shallow water, Lake Mistassini, N.E.T. (*J. M. Macoun.*) Ottawa River. (*Fletcher, Fl. Ott.*)

Var. **maximus,** Morong.

Flowing water, Becscie River, Anticosti. (*Macoun.*) Not uncommon at Ottawa. (*Fletcher, Fl. Ott.*)

Var. **heterophyllus,** Fries.

The common form and found throughout the country. Grand Vallée, Gaspé coast, Q. (*Macoun.*). Abundant in the vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Nation River, Ont. (*Billings.*) Mud Lake, near Kingston, Ont. (*Millman.*) Near Belleville, Hastings Co., and general throughout central Ontario in rivers, lakes and ponds, and westward to Lake Superior, where it is particularly abundant. (*Macoun.*) Parry Sound, Georgian Bay. (*Burgess.*) Lake Mistassini, N.E.T., and Missinaibi River, Ont. (*J. M. Macoun.*) Oba Lake, Ont. (*R. Bell.*) Jones Falls, Ont. (*Millman.*) Abundant in fresh water ponds throughout the prairie region, through the Rocky Mountains, and west-

ward to the Pacific, where it becomes common in ponds and lakes on Vancouver Island, near Victoria, Nanaimo, Qualicum and Alberni. (*Macoun.*) Cumberland House on the Saskatchewan. (*Hooker, Fl.*)

(2438.) **P. lucens,** Linn.; Gray, Man. Ed. V., 487.

Pictou Co., N.S. (*McKay.*) St. Lawrence River, at Prescott, Ont. (*Billings.*) Bay of Quinte, and in the mill pond at Stirling, and in Elziver, Hastings Co.; also in the still waters of the Trent River, Seymour, Northumberland Co., Ont. (*Macoun.*) Nelson River, Keewatin. (*R. Bell.*)

(2439.) **P. Zizii,** Mertens & Koch.

P. lucens, var. *minor,* Nolte; Gray, Man. Ed. V., 488; Macoun, Cat. No. 1734, var. *minor.*

Apparently rare in Canada. Nation River at Casselman, near Ottawa; Big Bushkong and other lakes up Gull River, Victoria Co., Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*) Meech's Lake, near Chelsea, Q. (*Fletcher, Fl. Ott.*)

(2440.) **P. præiongus,** Wulfen.; Hook., Fl. II., 172.

P. lucens, Michx., Fl. I., 102; Pursh, Fl. I. 120.

Not uncommon in deep water of lakes and quiet rivers. Earltown Lakes, Colchester Co., N.S. (*McKay.*) Bass River, Kent Co.; Tobique Lake, N.B. (*Fowler, Cat.*) Woodstock, N.B. (*Hay.*) St. Stephen, N.B. (*Vroom.*) St. Lawrence River, near Point St. Charles, Montreal, 1821. (*Dr. Holmes.*) Bay of Quinte, at Belleville; Weller's Bay, Lake Ontario, and in deep water in the River Trent, Seymour, Northumberland Co.; abundant in Lake Superior, at the mouth of the Kaministiqua, and in the lake expansions of Nipigon River. (*Macoun.*) Goulais River, Lake Superior. (*R. Bell.*) In the Athabasca River, above Lake Athabasca, lat. 58°; Lost Lake, near Cedar Hill, and Langford and Shawnigan lakes, near Goldstream, Vancouver Island. (*Macoun.*) English River, north of the Saskatchewan. (*Hooker, Fl.*)

(2441.) **P. perfoliatus,** Linn.; Michx., Fl. I., 101; Pursh, Fl. I., 120; Hook., Fl. II., 172.

Rather common in rivers and lakes throughout the country. Cow Bay, Halifax Co., N.S. (*Sommers, Cat.*) Ponds and slow streams, Norton, N.B. (*Fowler, Cat.*) Becscie River, Anticosti. (*Macoun.*) Rivers of the north shore of the Gulf of St. Lawrence. (*St. Cyr.*) Rivière du Loup, Q. (*Thomas.*) River St. Pierre and at Three Rivers, Q. 1821. (*Dr. Holmes.*) Green's Creek, Ottawa; very rare, only once collected. (*Fletcher, Fl. Ott.*) Abundant in the Bay of Quinte, and at

Weller's Bay, Lake Ontario. (*Macoun.*) Kemptville, Ont. (*Porter.*) Kingston, Ont. (*Millman.*) Canada to Slave River. (*Hooker, Fl.*)

Var. **lanceolatus,** Robbins, Gray, Man. Ed. V., 488.

This seems to be the western and northern form, as it is abundant westward where the species seems to be absent. St. Clair Flats, Ont. (*J. M. Macoun.*) Abundant at Ottawa, in all waters. (*Fletcher, Fl. Ott.*) Lake of the Woods. (*Burgess.*) In the still waters of the lake expansions of Nipigon River, and in the mouths of rivers north of Lake Superior. (*Macoun.*) Lake Mistassini, N.E.T.; and Missinaibi River, Ont. (*J. M. Macoun.*) James Bay, at Moose Factory. (*Cottar & Dr. Hayden.*) Nelson River, Keewatin. (*R. Bell.*) Moose Mountain Creek, Man. (*J. M. Macoun.*) Long Lake, north of Regina, Assiniboia; in a small pond on Copper Mountain, Rocky Mountains. (*Macoun.*) Lewes River, lat. 62°. (*Dawson.*)

(2442.) **P. zosterifolius,** Schum.; Hook., Fl. II., 172.

P. compressus, Fries.; Gray, Man. Ed. V., 488; Macoun, Cat. No. 1732.

Rather common in still water. Still and slow flowing water, St. John, N.B. (*Fowler, Cat.*) Vicinity of Ottawa; common. (*Fletcher, Fl. Ott.*) Near Montreal, 1821. (*Dr. Holmes.*) St. Lawrence River and slow streams; common at Prescott, Ont. (*Billings.*) Jones Falls, Rideau River, Ont. (*Millman.*) London, Ont. (*Burgess.*) Abundant in the Bay of Quinte, and in all the rivers in central Ontario; Gull River, Peterboro Co., Ont., and in Lake Hannah, Nipigon River, Lake Superior. (*Macoun.*) Oba Lake and river, and Missinaibi River, Ont. (*R. Bell.*) Burlington Marsh, Hamilton, Ont. (*Buchan.*) York Factory, Hudson Bay, and from Cumberland House, on the Saskatchewan, to Portage La Loche, lat. 57°. (*Hooker, Fl.*)

(2443.) **P. obtusifolius,** Mertens & Koch.

A few specimens were gathered in mud on the margin of a small lakelet near Point Fame Lighthouse, Gaspé coast, Q., in August, 1882. (*Macoun.*)

(2444.) **P. pauciflorus,** Pursh, Fl. I., 121.

P. gramineum, Michx., Fl. I., 102.
P. pusillum, Hook., Fl. II., 172.

Not uncommon in still water. Restigouche River, N.B.; rather doubtful. (*Fowler, Cat.*) Madeline River, Gaspé, Q.; abundant in the Bay of Quinte, and in the Trent River at Trenton; also Gull River, Peterboro Co., Ont. (*Macoun.*) Smith's Falls, Ont. (*Prof. Fowler.*) Billings Bridge, Ottawa. (*Fletcher, Fl. Ott.*) Marsh at Hamilton, Ont.

(*Buchan.*) North shore of Lake Superior. (*Agassiz.*) Lake Mistâssini, N.E.T. (*J. M. Macoun.*) Fort Carleton, Saskatchewan River. (*Macoun.*) Cumberland House to York Factory, on Hudson Bay. (*Hooker, Fl.*)

Var. **Niagarensis,** Gray.

P. Niagarensis, Tuckerman, Amer. Journ. Sci. (2, Ser.) VII., 354.

Rapids above Niagara Falls. (*Burgess.*) Niagara River, near the brink of the Hog's Back, growing plentifully with *Udora;* and elsewhere in the river. (*Tuckerman.*)

(2445.) **P. pusillus,** Linn.; Gray, Man. Ed. V., 488.

Rather common in ditches and slow streams. In ditches at Halifax, N.S. (*Macoun.*) Little Rocher, N.B. (*Fowler, Cat.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Common in streams inland, from Prescott, Ont. (*Billings.*) Grand Vallée, Gaspé coast, Q.; in flowing water at Hull, Q.; in the River Trent, at Trenton, and abundant in still waters and ditches throughout central Ontario. (*Macoun.*) Cockburn Island, Georgian Bay. (*J. Bell.*) Jones Falls, Rideau River. (*Millman.*) Little Saskatchewan, near Rapid City, and not uncommon in pools in the prairie region. (*Macoun.*) Lake of the Woods. (*Burgess.*) Lake Mistassini, N. E. T. (*J. M. Macoun.*) Specimens referred here were collected at Fort McLeod, B.C., lat. 55°. (*Macoun.*)

Var. **vulgaris,** Fries.; Gray, Man. Ed. V., 489.

This is a longer and more branching form, with generally cylindrical and interrupted spikes. Madeline River, Gaspé, Q.; Gull River, Victoria Co.; in deep water, Trent River, Seymour, Northumberland Co., Ont.; Shawnigan Lake, Vancouver Island. (*Macoun.*) The commonest form at Ottawa. (*Fletcher, Fl. Ott.*)

Var. **panormitanus,** Biv.

Rideau Canal, near Ottawa. (*Fletcher, Fl. Ott.*)

Mr. Morong writes of this variety: "I have carefully compared these (Mr. Fletcher's specimens) with the plant sent me as *P. pusillus,* L., var. *panormitanus,* Biv., and can see no essential difference. In my specimens the (submerged) leaves are shorter, they are not ruddy at all, and none revolute. The description of the variety, however, corresponds "leaves longer," (than the type) flaccid, the upper flowering ones opposite and spatulate, the whole surface of the leaf with a pretty chain-like areolation." I am sure that your plant meets this description, and when compared as to the floating leaves the specimens agree. I should not, however, regard it as a distinct species, since it

bears so many of the characteristics of *pusillus*. The ruddy tinge and revolute leaves may be owing to the season or accidental circumstances.

(2446.) **P. mucronatus,** Schrader.

P. pusillus, var. *major*, Fries.; Gray, Man. Ed. V., 489.
P. obtusifolius, Macoun, Cat. No. 1737.

Rather uncommon but very likely overlooked. St. Stephen, and Little Rocher, N.B. (*Fowler, Cat.*) Brackish ponds, Salt Lake, Anticosti; abundant in a brook, North Hastings, Ont.; marshes at the mouth of Nipigon River, Lake Superior. (*Macoun.*) Muskeg Creek, Lake Winnipeg, Man.; and Missinaibi River, Ont. (*J. M. Macoun.*) Long Lake, and Reed Lake, Assiniboia. (*Macoun.*) In the Red River at Emerson, Man. (*Prof. Fowler.*)

(2447.) **P. rutilans,** Wolfgang.

In marshes at Ellis Bay, Anticosti, 1883; also in abundance in marshes at the mouth of the Nipigon River, near Red Rock, Lake Superior, 1884. (*Macoun.*) On South Twin Island, James Bay, 1887. (*J. M. Macoun.*) These are the only known localities for this species in America.

(2448.) **P. marinus,** Linn.; Michx., Fl. I., 102.

P. pectinatus, var. *latifolius*, Watson; Macoun, Cat. No. 1739, var.
P. pectinatus, var. β, Hook., Fl. II., 172.

Chiefly in brackish marshes on the sea-coast and in the prairie region. Brackish ponds, Salt Lake, Anticosti; Madeline River, Gaspé coast, Q. (*Macoun.*) Shore of the Gulf of St. Lawrence. (*St. Cyr.*) Missinaibi Lake and Nelson River. (*R. Bell.*) Lake Mistassini, N.E.T.; Moose Mountain Creek, Man. (*J. M. Macoun.*) Common in the larger pools throughout the prairie region. (*Macoun.*) Ten miles above Spence's Bridge, B.C. (*Fletcher.*) Further examination will doubtless show that much of the material now referred to *P. pectinatus* is really this species.

Var. **Macounii,** Morong. (MS.)

This is a broad-leaved and very distinct form, and cannot be referred to *R. marinus*, var. *occidentalis*, although near it, by Rev. T. Morong, who names it as above. Brackish, and salt lakes, prairie region. Old Wives Lakes, and in Crawling Valley, south of the Hand Hills, Alberta. (*Macoun.*)

(2449.) **P. pectinatus,** Linn.; Pursh, Fl. I., 121.

P. pectinatus, var. *a.*, Hook., Fl. II., 172.

Widely distributed or confounded with *P. marinus*. In ponds at

Baddeck, Cape Breton. (*Macoun.*) Harris Cove, Norton, and Clifton, N.B. (*Fowler, Cat.*) Along the River St. Lawrence, Q. (*St. Cyr.*) Common in the vicinity of Ottawa. The typical form. (*Fletcher, Fl. Ott.*) St. Lawrence River, Conway's Creek, Nation River, and near Prescott, Ont. (*Billings.*) Jones Falls, Rideau River, Ont. (*Millman.*) Very common in all the streams in central Ontario, and extending westerly to Victoria Co. (*Macoun.*) Marsh at Hamilton, Ont. (*Logie.*) London, Ont. (*Burgess.*) South Twin Island, James Bay, and Severn River, Keewatin. (*J. M. Macoun.*) James Bay, near Moose Factory. (*Cottar & Dr. Hayden.*) Moose Mountain Creek, Man. (*J. M. Macoun.*) Abundant in the Sydenham River, at Owen Sound, and in all the streams entering Lake Superior; Reed Lake, Assiniboia, and in Red Deer River, Man.; not uncommon in pools and slow flowing streams from Morley westward through the Rocky Mountains to the Columbia; in Somas and Stamp rivers, Alberni, west coast of Vancouver Island. (*Macoun.*) Crow Nest Pass, Rocky Mountains; Lewes River, lat. 62° N. of British Columbia. (*Dawson.*) Canada to English River, and from Hudson Bay to alpine lakes in the Rocky Mountains. (*Hooker, Fl.*) Greenland. (*Lange.*)

Two very marked forms were found growing together at Black Rapids, Rideau River, near Ottawa, by Mr. Fletcher. Of these forms Mr. Morong writes him:—

(I.) "There is no varietal name for this form, but it is bushy and densely clothed with fine setaceous leaves, and might be called var. *tenuissimus*, as you suggest.

(II.) This form approaches the "var. (?) *latifolius*" of Robbins, some of the leaves three nerved."

(2450.) **P. Robbinsii,** Oakes, Hov. Mag. VII., 128.

Growing usually in deep water and seldom maturing its fruit. Petitcodiac and Hampton; also Tobique Lakes, N.B. (*Fowler, Cat.*) Little Nictau Lake, N.B. (*Hay.*) Meech's Lake, Chelsea, Q. (*Fletcher, Fl. Ott.*) Partridge Lake, Addington Co.; Crow River, Marmora Iron Works; Oak Hill Pond, near Stirling, Hastings Co.; Gull River, near Elliott's Falls, and Gull Lake, near Minden, Victoria Co.; and in the mouth of Nipigon River, Lake Superior. (*Macoun.*) Oba Lake and Missinaibi River, Ont. (*R. Bell.*) Lost Lake, near Cedar Hill, and abundant and fruiting in the Somas River at Alberni, on the west coast of Vancouver Island. (*Macoun.*)

657. RUPPIA, Linn. Gen. 175. (DITCH-GRASS.)

(2451.) **R. maritima,** Linn.; Pursh, Fl. I., 121; Hook., Fl. II. 170.

Generally in salt ponds by the sea-coast. Abundant at Yarmouth, N.S., and in salt ponds at Baddeck, Cape Breton. (*Macoun.*) Growing under water in estuaries of rivers flowing into the Gulf of St. Lawrence, New Brunswick coast. (*Fowler, Cat.*) St. Andrews, N.B. (*Vroom.*) Pokeseudie Gully, Gloucester Co., N.B. (*Hay.*) Growing profusely in the northern end of Old Wives Lakes, Assiniboia, near the Canadian Pacific Railway; in salt ponds at Qualicum and Alberni, Vancouver Island. (*Macoun.*)

658. ZANNICHELLIA, Linn. Gen. 1034. (HORNED PONDWEED)

(2452.) **Z. palustris,** Linn.; Pursh, Fl. I., 4; Hook., Fl. II., 170.

Freshwater, and brackish ponds and ditches; not rare. In the salt marsh near Truro, and at Yarmouth, N.S.; salt ponds at Baddeck, Cape Breton. (*Macoun & Burgess.*) Growing under water in streams rendered brackish by the tides. Richibucto and Spurr's Cove, N.B. (*Fowler, Cat.*) Salt Lake, Anticosti. (*Macoun.*) Not uncommon at Ottawa. (*Fletcher, Fl. Ott.*) Pools by the St. Lawrence River, at Prescott, Ont. (*Billings.*) Marshy ponds near Rednersville, Bay of Quinte, and in a ditch between Taylor's Hill and the River Moira, Belleville, Ont. (*Macoun.*) Lake Mistassini, N.E.T.; Moose Mountain Creek, Man. (*J. M. Macoun.*) In "The River that Turns," near the Elbow of the South Saskatchewan, and numerous brackish ponds throughout the prairie region. (*Macoun.*)

659. ZOSTERA, Linn. Gen. 1032. (GRASS-WRACK.)

(2453.) **Z. marina,** Linn.; Pursh, Fl. I., 2.

Between high and low tide on both the east and west coasts. Halifax, N.S. (*Sommers, Cat.*) On the sea-coast at Yarmouth, and on McNab's Island, Halifax Harbor, N.S. (*Macoun.*) Common along the coasts of Nova Scotia and Newfoundland. (*McKay.*) Growing under water in shallow places along the Gulf coast, N.B. (*Fowler, Cat.*) Salt Lake, Anticosti; common around the Bay of Chaleur and up the

Gaspé coast of the St. Lawrence; abundant on both the east and west coasts of Vancouver Island, always about low water mark. (*Macoun.*) Ounalashka. (*Rothr. Alask.*) Greenland. (*Lange.*)

660. PHYLLOSPADIX, Hook., Fl. II., 171. (FALSE EEL-GRASS)

(2454.) **P. Scouleri,** Hook., Fl. II., 171.

Abundant on steep rocks below half tide, from the lighthouse, near Victoria, around the coast to Esquimault Harbor; very common in the same situations on all the islands in the outer part of Barclay Sound, on the west coast of Vancouver Island. (*Macoun.*)

Although much like *Z. marina* in general appearance, its place of growth differs so materially that the two species need never be confounded, as this always grows on steep rocks or on boulders, while the other delights in pools with a bottom of shell mud. Fine fruiting specimens were obtained in July and August, 1887. It is very likely quite common on the Pacific coast, but usually confounded with *Z. marina.*

661. NAIAS, Linn. Gen. 1096. (NAIAD)

(2455.) **N. flexilis,** Rostk. & Schmidt.

N. Canadensis, Michx., Fl. II., 220; Pursh, Fl. II., 602; Hook., Fl. II., 170. *Caulina flexilis,* Willd.; Pursh, Fl. I., 2.

Locally abundant and widely distributed, extending from the Atlantic to the Pacific. Lake St. John, Q. (*Michaux.*) Earlstown Lakes, Colchester Co., N.S. (*McKay.*) Amqui, Metapedia River, Q. (*Macoun.*) Potter's Lake, St. Stephen, N.B. (*Fowler, Cat.*) Nation River at Casselman, and other places near Ottawa. (*Fletcher, Fl. Ott.*) Lake Ontario, at Kingston, Ont. (*Millman.*) Bay of Quinte, and in still water in all rivers and lakes of central Ontario; also Sydenham River, Owen Sound, Ont. (*Macoun.*) Point Edward, River St. Clair, Ont.; Lake Mistassini, N.E.T. (*J. M. Macoun.*) Head of the canal, Sault Ste Marie, Lake Superior; occasionally met with in lakes north of the prairie; English Lake, near Fort Pitt, Saskatchewan River a few very depauperate specimens, Sproat Lake, Alberni, Vancouver Island. (*Macoun.*)

CXVII. ERIOCAULEÆ. Pipewort Family.

662. ERIOCAULON, Linn. Gen. 100. (PIPEWORT)

(2456.) **E. septangulare,** With.; Hook., Fl. II., 187.

E. pellucidum, Michx., Fl. I., 166; Pursh, Fl. I., 92.

In soft mud on the borders of lakes and ponds. Newfoundland. (*Dr. Morrison.*) Halifax and Mahone Bay, N.S. (*Sommers, Cat.*) Pictou Co., and Magdalen Islands, N.S. (*McKay.*) Caledonia, Guysboro Co., N.S. (*Faribault.*) In a small lake, North Sydney, Cape Breton. (*Macoun & Burgess.*) Lily Lake, Dark Lake, Welsford, and St. Stephen, N.B. (*Fowler, Cat.*) Tadousac Lake, Q. (*A. T. Drummond.*) Trembling Lake, Argenteuil Co., Q. (*D'Urban.*) Border of Partridge Lake, and Gull Lake, Addington Co.; Hooper's Lake, Hastings Co.; very common in the small lakes in Peterboro and Victoria Co's., Ont.; also Birch Lake, north-east of Lake Superior. (*Macoun.*) Abundant in a lake two miles from Sudbury, Ont., (*Fletcher.*) St. Joseph Island, Georgian Bay. (*J. Bell.*) Pancake River, Ont., near its mouth, growing on mud in a little cove. (*R. Bell.*) Port Cockburn, Lake Joseph, Muskoka Co., Ont. (*Burgess.*) Canada to the Saskatchewan. (*Hooker, Fl.*)

CXVII. CYPERACEÆ. Sedge Family.

663. CYPERUS, Linn. Gen. 66. (GALINGALE)

(2457.) **C. diandrus,** Torr. Cyp. 342; Hook., Fl. II., 232.

Low ground around springs, and in marshes by lakes and ponds. Fredericton, N.B. (*Fowler, Cat.*) Riverside, King's Co., N.B. (*Wetmore.*) In clefts of rocks on the shore of the St. Lawrence, at Montreal, and at Niagara Falls. (*W. F. McCrea.*) In all low spots in the vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Common along the St. Lawrence, at Prescott., Ont. (*Billings.*) Kemptville, Ont. (*Porter.*) Low grounds at Kingston, and London, Ont. (*Burgess. Millman.*) Very common at Belleville, and in the marshes of the Bay of Quinte, Ont. (*Macoun.*) Marshes at Hamilton, Ont. (*Buchan.*) Banks of Kettle Creek, St. Thomas, Ont. (*Saunders.*) Swampy ground, Owen Sound, Ont. (*Macoun.*) Point Edward, River St. Clair, Ont. (*J. M. Macoun.*) Canada. (*Goldie.*)

Var. **castaneus,** Torrey, Cyp. 251.

C. flavescens, var. *β. castaneus,* Pursh, Fl. I., 52.

Abundant in marshes at Belleville, and at the head of the Bay of Quinte, near the Murray Canal, Ont. (*Macoun.*) Niagara Falls. (*W. F. McCrea.*)

(2458.) **C. flavescens,** Linn.; Gray, Man. Ed. V., 552.

Credited to Canada by Prof. L. N. Britton, in his Revision of this genus. We have never seen a Canadian specimen. It should be looked for along the New Brunswick coast.

(2459.) **C. aristatus,** Rottb.; Britton. Bull. Torr. Bot. XIII., 207.

C. inflexus, Muhl.; Hook., Fl. II., 232; Macoun, Cat. No. 1909.
C. uncinatus, Pursh, Fl. I., 50.

Gravel in the beds of rivers, apparently very local. Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) West Rideau Lake, Ont. (*Porter.*) Gravelly bed of the river Moira, at Belleville, Hastings Co; also in the bed of the River Trent, at Trenton, Myersburg, and Heely Falls, Northumberland Co., Ont.; rather uncommon at Somas Falls, four miles from Alberni, west coast of Vancouver Island. (*Macoun.*) Saskatchewan and Lake Winnipeg. (*Hooker, Fl.*)

(2460.) **C. Schweinitzii,** Torr. Cyp., 276.

Sandy shores of lakes and rivers, and on sand hills on the prairies. On sand on the beach along the lake shore at Hamilton, Ont. (*Burgess. Millman.*) Point Pelée, Lake Erie. (*Burgess.*) Port Colborne, Lake Erie, and Point Edward, Lake Huron, Ont.; Hungry Hall, Rainy River, and on sand banks where that river enters the Lake of the Woods; on sand hills near the source of the Qu'Appelle, and at Old Wives Lakes, Assiniboia. (*Macoun.*)

(2461.) **C. esculentus,** Linn., Britton, Bull. Torr. Bot. XIII., 210.

C. phymatodes, Muhl.; Gray, Man. Ed. V., 554.
C. repens, Ell.; Hook., Fl. II., 232.
C. tuberosus, Vahl.; Pursh, Fl. I., 52.

On the banks of rivers, chiefly in wet sand. Sandy bank of Kennebeccasis; Norton, and Fredericton, N.B. (*Fowler, Cat.*) Gatineau Point, on the Ottawa, Q.; in wet sand at Niagara Town, and near Queenston Heights, along the railway. (*Macoun.*) In great abundance below Parliament Hill, Ottawa. (*Fletcher, Fl. Ott.*) Low grounds, London, Ont. (*Burgess. Millman.*) Point Pelée and Point Aux Pins, Lake Erie, Ont. (*Burgess.*) Upper Canada. (*Goldie.*)

(2462.) **S. strigosus.** Linn.; Hook., Fl. II., 232; Pursh, Fl. I., 52.

C. Michauxianus, Schultes.; Gray, Man. Ed. V., 554.
C. flavicomus, Vahl.; Michx., Fl. I., 27; Pursh, Fl. I., 53.

Not uncommon in Ontario in cold wet pastures and meadows. Nun's Island, Montreal, and Niagara Falls. (*W. F. McCrea.*) Wet place, near the outlet of the Rideau Canal, Ottawa. (*St. Cyr.*) Along the Rideau River at Ottawa. (*Fletcher, Fl. Ott.*) In a little marsh on the banks of the St. Lawrence, one mile west of Brockville, Ont. (*Billings.*) West Rideau Lake, Ont. (*Porter.*) Low wet meadows and boggy places, Kingston, Ont. (*Millman.*) Kingston, Ont.; Point Pelée, Lake Erie; Point Aux Pins, Lake Erie. (*Burgess.*) Boggy ground, Gatineau Point, near Ottawa,; wet grassy places along the Bay of Quinte, at Belleville, and in a sandy field at the Murray Canal, near Trenton; near Salt Creek bridge, Brighton, Northumberland Co.; and on an island in Rice Lake; Port Colborne, Lake Erie. (*Macoun.*) Point Edward, Lake Huron. (*J. M. Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*) Upper Canada to the Saskatchewan. (*Hooker, Fl.*)

(2463.) **C. erythrorhizos,** Muhl.; Gray, Man. Ed. V., 552.

Apparently confined to south western Ontario. Point Aux Pins, Lake Erie. (*Burgess.*)

(2464.) **C. filiculmis,** Vahl.; Pursh, Fl. I., 52.

C. mariscoides, Ell.; Torr., Fl. I., 63.
C. Kyllingæoides, Vahl.; Pursh, Fl. I., 50.

Dry sandy woods or fields, not uncommon in central Ontario. Common on Massassagua Point, Bay of Quinte, Ont; sand hills at Murray Townhall, and on Rice Lake Plains, Northumberland Co., Ont.; in sandy fields and thickets at Point Edward, Lake Huron. (*Macoun.*) Sandy meadows, London, Ont. (*Burgess. Millman.*) Point Aux Pins, Lake Erie. (*Burgess.*) Vicinity of Hamilton, Ont. (*Buchan.*)

664. DULICHIUM, Pers. (DULICHIUM)

(2465.) **D. spathaceum,** Pers.; Hook., Fl. II., 232; Pursh, Fl. I., 53.

D. Canadense, Pers.; Pursh, Fl. I., 54.
Scirpus spathaceus, Michx., Fl. I., 32.

Not uncommon in marshes and by lake borders, from the Atlantic to the Pacific. Halifax, N.S. (*Sommers. Macoun.*) Caledonia, Guysboro Co., N.S. (*Faribault.*) Earlston Lakes, Pictou Co., N.S. (*McKay.*) Very wet places, Kent Co.; and Norton, N.B. (*Fowler, Cat.*) Beau-

mont, Bellechasse Co., Q. (*St. Cyr.*) Swampy ground, near Hamilton's Farm, Argenteuil Co., Q. (*D'Urban.*) Kemptville, Ont. (*Porter.*) Casselman and several other places near Ottawa. (*Fletcher, Fl. Ott.*) Common in marshes at Prescott, Ont. (*Billings.*) Quite common at Belleville and throughout central Ontario. (*Macoun.*) Mossy bog, London, Ont. (*Burgess. Millman.*) Moon River, Muskoka Co., Ont. (*Burgess.*) Sou-sou-wa-ga-mi Creek, Lake Huron; Michipicotin to Lake Missinaibi, Ont. (*R. Bell.*) In a marsh at Langford Lake, and in a marsh at Sproat Lake, Alberni, west coast of Vancouver Island. (*Macoun.*) Canada to the Saskatchewan. (*Hooker, Fl.*)

665. HELEOCHARIS, R. Br. (SPIKE-RUSH)

(2466.) **H. Robbinsii,** Oakes.; Gray, Man. Ed. V., 557.

Kendrick's Lake; and Potter's Lake, near St. Stephen, N.B. (*Vroom.*)

(2467.) **H. obtusa,** Schultes.; Hook., Fl. II., 229.

Scirpus capitatus, Vahl.; Pursh, Fl. I., 55.
S. ovatus, Vahl.; Pursh, Fl. I., 54.

Rather uncommon but widely distributed. Common in Pictou Co., N.S. (*McKay.*) Ditches at Annapolis, N.S. and Whycocomagh, Cape Breton. (*Macoun.*) Muddy places; common, N.B. (*Fowler, Cat.*) Ditches, Campbellton, N. B. (*Macoun.*) Etchemin, Q. (*Hon. W. Shepperd.*) Muddy soil, Notre Dame de Levis, Q. (*St. Cyr.*) Nation River, at Casselman, and other places near Ottawa. (*Fletcher, Fl. Ott.*) Kemptville, Ont. (*Porter.*) Common in ditches at Prescott, Ont. (*Billings.*) Ditches and muddy places, rather common in central Ontario. (*Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*) Swamps at London, Ont., and Parry Sound, Georgian Bay. (*Burgess.*) North shore of Lake Superior. (*Agassiz.*) Pitt River, B. C. (*J. A. Hill.*) Saskatchewan River. (*Hooker, Fl.*)

(2468.) **H. palustris,** R. Br.; Hook., Fl. II., 228.

H. multicaulis, Hook., Fl. II., 228. (?)
Scirpus palustris, Vahl.; Pursh, Fl. I., 54.

Common in wet meadows and bogs from the Atlantic to the Pacific. Marshy places, Annapolis, and Truro, N.S.; Louisburg, Cape Breton. (*Macoun.*) Common both in the large form which grows in water, and the smaller form in wet meadows, N.B. (*Fowler, Cat.*) Campbellton, N.B.; Little Fox River, Gaspé, Q. (*Macoun.*) Ouatchechou, Q. (*St. Cyr.*) Water pools, on rocks, Huckleberry Rapids, Argenteuil Co., Q. (*D'Urban.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*)

Common in marshy places, Prescott, Ont. (*Billings.*) Kemptville, Ont. (*Porter.*) Abundant in marshy meadows and lake margins throughout central Ontario. (Both forms.) (*Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*) Swamps at London, Ont. (*Burgess. Millman.*) Parry Sound, Georgian Bay. (*Burgess.*) North shore of Lake Superior. (*Agassiz.*) Batch-ah-wah-nah Bay, Lake Superior; Michipicotin to Lake Missinaibi, Ont.; down the Nelson River to York Factory. (*R. Bell.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) Fort George, James Bay. (*J. M. Macoun.*) Sydenham River, Owen Sound, Ont.; abundant around Lake Superior and up the Nipigon River to Livingstone Point, on Lake Nipigon. (*Macoun.*) Wet prairie at Emerson, Man; Souris River, 49th parallel; and Kitaman River, Kootanie Valley, Rocky Mountains. (*Dawson.*) Rather common in wet spots on the prairie from Winnipeg westward, especially at the File Hills and Long Lake; not uncommon in the Rocky and Selkirk Mountains, and westward to the Pacific coast and Vancouver Island, where it is abundant. (*Macoun.*) Throughout Canada to Bear Lake, and from Hudson Bay to the Pacific Ocean; varying much in size, from four inches to two feet. (*Hooker, Fl.*) Greenland. (*Lange.*)

Var. **calva,** Torr. Bot. N. York, II., 346.
Blackwater River, Lake Nipigon, Ont. (*Macoun.*)

Var. **glaucescens,** Gray, Man. Ed. V., 558.
In marshes at the mouth of Nipigon River, Lake Superior. (*Macoun.*)

(2469.) **H. compressa,** Sullivant; Gray, Man. Ed. V., 558.
This species seems to be rare in Canada. In wet meadows at Belleville, Ont.; in great profusion, and evidently indigenous. (*Macoun.*) Barren field north of Fort Wellington, Prescott, Ont. (*Billings.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*)

(2470.) **H. rostellata,** Torr., Var. **occidentalis,** Watson. Bot. Calif. II., 222.
Scirpus rostellatus, Torr. Cyp., 318.
Abundant in marshes of the Somas River, at Alberni, west coast of Vancouver Island. The culms are usually rather weak, and often root at the tips, forming new plants which soon equal the parent in size. (*Macoun.*)

(2471.) **H. intermedia,** Schultes.; Torr. Cyp., 91.
Not uncommon in marshy spots along the Bay of Quinte, both above and below Belleville, Ont. (*Macoun.*)

(2472.) **H. tenuis,** Schultes.; Torr. Cyp., 309.

Scirpus tenuis, Willd.; Torr. Fl. I., 44.

Not uncommon, growing in wet meadows and boggy places. On a wet boggy place at Truro, and North-west Arm, Halifax, N.S., and at North Sydney, and Louisburg, Cape Breton. (*Macoun.*) Halifax, N.S. (*Sommers.*) On a wet bank, Kouchibouguac; Tobique Lakes, Petitcodiac, and Hampton, N.B. (*Fowler, Cat.*) Salt Lake, Anticosti, and marshes at Grand Etang, Gaspé coast, Q. (*Macoun.*) Island of Orleans, Q. (*St. Cyr.*) Shores of Thunder Bay, and along the east coast of Lake Superior; east coast of Lake Nipigon. (*Macoun.*) Lake of the Woods. (*Burgess.*) Muskeg Creek, Lake Winnipeg. (*J. M. Macoun.*) Marshes along the base of Porcupine Mountain, Man.; Moose Jaw Creek, Assiniboia; along the Bow River, at Morley, and westward to Kananaskis Station, Rocky Mountains. (*Macoun.*)

(2473.) **H. acicularis,** R. Br.; Hook., Fl. II., 230.

Scirpus acicularis, Linn.; Pursh, Fl. I., 54.
S. capillaceus, Michx., Fl. I., 30.

Muddy places, not uncommon from the Atlantic to the Pacific. Ditches at Truro, N.S. (*Macoun.*) Louisburg, Cape Breton. (*Burgess.*) Muddy shores and ditches; common; Spurr's Cove, N.B. (*Fowler, Cat.*) Campbellton, N.B. (*Chalmers.*) Salt Lake, Anticosti; Ste. Anne des Monts River, Gaspé, Q. (*Macoun.*) Thunder Creek, Q. (*St. Cyr.*) St. John, Q. (*W. F. McCrea.*) Abundant on all muddy river banks at Ottawa. (*Fletcher, Fl. Ott.*) Common in ditches at Prescott, Ont. (*Billings.*) Kemptville, Ont. (*Porter.*) Very common in suitable places throughout central Ontario. (*Macoun.*) Vicinity of Hamilton, Ont. (*Buchan.*) Low ground, London, Ont. (*Burgess. Millman.*) Chicken Bay, Lake Huron; Sault Ste. Marie and east coast of Lake Superior. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*) Lake of the Woods; and Red River prairie, Man. (*Dawson.*) Red Deer River, near the Hand Hills, and frequent on the margin of pools in the prairie region; not uncommon in boggy places at Victoria, Nanaimo, and Alberni, Vancouver Island. (*Macoun.*) Hudson Bay, Red River, and the Saskatchewan. (*Hooker, Fl.*)

(2474.) **H. pygmæa,** Torr. Cyp., 313.

Scirpus pusillus, Vahl.; Pursh, Fl. I., 54.

Brackish marshes along the sea-coast. Baddeck, Cape Breton. (*Macoun & Burgess.*) Sea-shore, Kent Co., N.B. (*Fowler, Cat.*) Saguenay River, Q. (*Burgess.*) Lower St. Lawrence. (*C. G. Pringle.*) Salt marshes at Alberni, west coast of Vancouver Island. (*Macoun.*)

(2475.) **H. pauciflora,** Link.; Hook., Fl. II., 229.

Scirpus pauciflora, Lightf.; Gray, Man. Ed. V. 560; Macoun, Cat. No. 1930.
S. Bæothryon, Ehrh.; Hook., Fl. II., 229.

Not uncommon but easily overlooked; from the Atlantic westward to the Rocky Mountains. Salt Lake, Anticosti; Grand Etang and other places along the Gaspé coast, Q.; in wet sand at Presqu'ile Point, Wellington Beach, and Toronto Island, Lake Ontario. (*Macoun.*) Toronto, Ont. (*Burgess.*) East coast of Lake Nipigon; marshes at the base of Porcupine Mountain, Man.; in springs, Cypress Hills, Alberta; abundant on sand along Bow River, from Morley westward, and at Kicking Horse Lake, in the Rocky Mountains. (*Macoun.*) Muddy swamps and salt marshes in the Rocky Mountains. (*Hooker, Fl.*)

666. SCIRPUS, Linn. Gen. 67. (CLUB-RUSH.)

(2476.) **S. cæspitosus,** Linn.; Torr. Cyp., 319.

Eleocharis cæspitosa, Link.; Hook., Fl. II., 229.

Chiefly boreal and alpine in habit, but extending across the continent. Peat bog, Sydney Mine, Cape Breton. (*Macoun & Burgess.*) Richibucto and Lily Lake, N.B. (*Fowler, Cat.*) Peat bog, Salt Lake, Anticosti, (*Macoun.*) Summit of Mount Albert, Gaspé, Q. (*Macoun. Porter.*) Harbor Island, Mingan, Q. (*St. Cyr.*) Marsh at Chicken Bay, Lake Huron; abundant at Current River and north-east coast of Lake Superior; east coast of Lake Nipigon, Ont. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*) York Factory, Hudson Bay; Ford's Harbor, coast of Labrador. (*R. Bell.*) Bogs along the base of the Porcupine Mountain, Man.; on boggy soil, from Morley westward through the Rocky and Selkirk Mountains; on the summit of Mount Arrowsmith, alt. 4,800 feet, Vancouver Island. (*Macoun.*) Throughout Canada to near the shores of the Arctic sea, and in swamps of the Rocky Mountains. (*Hooker, Fl.*) Ounalashka, and Sitka. (*Rothr. Alask.*) Greenland. (*Lange.*)

(2477.) **S. subterminalis,** Torr.; Hook., Fl. II., 229.

Floating and growing in mud at the bottom of shallow lakes. Petitcodiac, and Quaco, N.B. (*Fowler, Cat.*) St. Clair Flats, St. Clair River, Ont. (*J. M. Macoun.*) In water, Blackstone Lake, Muskoka Co., Ont. (*Burgess.*) Oba Lake, Ont. (*R. Bell.*) Gull Lake, Addington Co., and in Gull River, Victoria Co.; White River, north of Lake Superior; and in a small lake on Mount Mark, Vancouver Island, alt. 2,500 feet. (*Macoun.*) Deep standing pools in the Rocky Mountains, near the head waters of the Columbia. (*Hooker, Fl.*)

(2478.) **S. pungens,** Vahl.; Gray, Man. Ed. V., 561.

S. triqueter, Michx., Fl. I., 47.
S. Americanus, Pers.; Pursh, Fl. I., 56.
S. mucronatus, Vahl.; Pursh, Fl. I., 55.

Not uncommon in salt marshes, and on the shores of the Great Lakes; extending from the Atlantic to the Pacific. Newfoundland. (*Reeks.*) Marshes at Sydney Mines, and Baddeck, Cape Breton. (*Macoun.*) Pictou, N.S. (*McKay.*) Common in salt or brackish marshes, New Brunswick. (*Fowler, Cat.*) Ouatechechou, Q. (*St. Cyr.*) Gravelly island in the St. Lawrence, opposite Montreal. (*W. F. McCrea.*) Along the Rideau River, at Ottawa. (*Fletcher, Fl. Ott.*) Bank of the St. Lawrence, three miles west of Prescott; banks of the Rideau River, near Ottawa. (*Billings.*) Hog Lake, North Hastings, Ont.; sands of Presqu'ile Point, Lake Ontario; River Trent, above Heely Falls, Northumberland Co., and on Britton's Island, Gull Lake, Victoria Co., Ont.; marsh at Chicken Bay, Lake Huron. (*Macoun.*) Sands of Toronto Island, Lake Ontario. (*Millman.*) Vicinity of Hamilton, Ont. (*Logie.*) Shallow water, Parry Sound, Georgian Bay. (*Burgess.*) Salt marshes at Brandon, and Calgary, N.W.T. (*Prof. Fowler.*) Borders of salt marshes, Old Wives Lakes, Cypress Hills, and throughout the prairie region generally; common in sandy marshes at Oak Bay, and along the coast of Vancouver Island to Comox; also in marshes at Alberni, on the west coast. (*Macoun.*) Fort Wrangel, Alaska. (*Meehan.*) Missinaibi River; marshes of the Saskatchewan and throughout the country to the Arctic regions. (*Hooker, Fl.*)

(2479.) **S. Nevadensis,** Watson, Bot. King's Exp. V., 360.

In alkaline marshes along the north end of Old Wives Lakes, and along some of the salt lakes north of the Cypress Hills. (*Macoun.*) Chinaman's Ranche, above Spence's Bridge, B.C. (*Fletcher.*)

(2480.) **S. lacustris,** Linn.; Hook., Fl. II., 229 (Great Club-Rush.)

S. validus, Vahl.; Pursh, Fl. I., 56; Gray, Man. Ed. V., 562; Macoun, Cat. No. 1927.

Common in still water of rivers, and in lakes and marshes from the Atlantic to the Pacific. Newfoundland. (*Reeks.*) Moser's Lake and Cow Bay, Halifax Co., N.S. (*Sommers, Cat.*) Annapolis, and Yarmouth N.S. (*Macoun.*) In still fresh water N.B.; common. (*Fowler, Cat.*) Campbellton, N.B. (*Chalmers.*) In marshes at Salt Lake, and Ellis Bay, Anticosti. (*Macoun.*) Vicinity of Ottawa; not common. (*Fletcher, Fl. Ott.*) Kemptville, Ont. (*Porter.*) Common around Prescott, Ont. (*Billings.*) St. Andrews, Q., and Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Rivers, lakes and ponds, quite common in central and western Ontario.

(*Macoun.*) Vicinity of Hamilton. (*Logie.*) In water at London, Ont. (*Burgess. Millman.*) North shore of Lake Superior. (*Agassiz.*) Lake Nipigon; and Kaministiqua River, Thunder Bay, Lake Superior. (*Macoun.*) Lake of the Woods, and Roseau River, Man. (*Burgess.*) Lake Mistassini, N.E.T.; "Grassy Narrows," Lake Winnipeg; Beren's River and down the Severn River, Keewatin. (*J. M. Macoun.*) Michipicotin River, Ont.; Nelson River, Keewatin. (*R. Bell.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) Winnipeg and North-west Angle Road; also Trader's Road, Man. (*Dawson.*) Occasionally in ponds, but particularly at Rush Lake, in the prairie region, extending north to the Peace River; Bow River, at the Kananaskis, Rocky Mountains, and in the Columbia Valley, between Golden City and Donald; not uncommon on the borders of lakes, Vancouver Island. (*Macoun.*) British America, as far north as lat. 57°; marshes of the Rocky Mountains. (*Hooker, Fl.*)

Var. **occidentalis,** Watson, Bot. Calif. II., 218.

Kootanie Valley, Rocky Mountains, 1883. (*Dawson.*)

(2481.) **S. maritimus,** Linn.; Hook., Fl. II., 230, (Sea Club-Rush.)

S. maritimus, β. macrostachyos, Michx., Fl. I., 32, in part.
S. robustus, Pursh, Fl. I., 56, in part.

Salt marshes on the coasts of the Atlantic and Pacific oceans, and borders of salt lakes in the prairie region. Salt marshes at Truro, and Yarmouth, N.S. (*Macoun.*) Common in salt marshes, N.B. (*Fowler, Cat.*) Salt Lake, Anticosti. (*Macoun.*) Saguenay River; Rivière du Loup, Q. (*Burgess.*) Saline lake near Turtle Mountain, Man. (*Dawson.*) Marshes at the File Hills, Man., and along Thunder Creek, and Old Wives Lakes, Assiniboia; very abundant in salt marshes at Qualicum, and Nanaimo; also at Alberni, on the west coast, Vancouver Island. (*Macoun.*) Salt marshes of the Saskatchewan. (*Hooker, Fl.*)

(2482.) **S. fluviatilis,** Gray. (River Club-Rush.)

S. maritimus, var. (?) *fluviatilis,* Torr. Bot. N. York, II., 354.
S. robustus, Pursh, Fl. I., 56, in part.

Rather uncommon in river and lake marshes. L'Ange Gardien, and Templeton; Pointe Aux Trembles, Hochelago Co., Q. (*Ami.*) Marsh along the Rideau River, at the railway bridge, Ottawa. (*Fletcher, Fl. Ott.*) River St. Lawrence, at Prescott. (*Billings.*) River Trent, at the terminus of the Marmora railway, and at the "Narrows" above that point; Gull River, above Cameron Lake, Victoria Co., Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Swampy marsh, Kingston, Ont. (*Millman.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Shallow

water, Point Pelée, Lake Erie. (*Burgess.*) Marsh, Lake Shebandewan, west of Lake Superior. (*Macoun.*)

(2483.) **S. rufus,** Wahl.; Hook. British Flora, 414.

Blysmus rufus, Link.

Salt marshes, chiefly around the Gulf of St. Lawrence. Marshy ground at the mouth of Eel River, Restigouche Co., N.B. (*Fowler, Cat.*) Abundant at Salt Lake, and Becscie River, Anticosti; very common in salt marshes at Cape Rosier, Gaspé, and at intervals along the coast to Matane, Q. (*Macoun.*) Shore of River St. Lawrence, Q. (*Pringle.*) Around salt springs, about a mile up Red Deer River, at the head of Lake Winnipegoosis, lat. 53°. (*Macoun.*)

(2484.) **S. sylvaticus,** Linn., var. **digynus,** Bœck.

S. microcarpus, Presl.; Gray, Man. Ed. V., 564; Macoun, Cat. No. 1931.
S. sylvaticus, Linn.; Hook., Fl. II., 230; Pursh, Fl. I., 56.
S. lenticularis, Torr. Cyp., 328; Hook., Fl. II., 230.

Not uncommon in flowing water from the Atlantic to the Pacific. Truro, and Annapolis, N.S. (*Macoun.*) Pictou, N.S. (*McKay.*) Common in Kent Co.; Campbellton, N.B. (*Fowler, Cat.*) Brooks, Gaspé Basin, Q. (*Macoun.*) Montreal, and St. Andrews, Q. (*McGill Coll. Herb.*) Nipigon House, Lake Nipigon, Ont. (*Macoun.*) Lake Mistassini, N.E.T. (*J. Richardson.*) Rupert House, James Bay. (*J. M. Macoun.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) Michipicotin River, Ont. (*R. Bell.*) Cut Arm Creek, Saskatchewan River, Athabasca River, Peace River, and Lake Athabasca, N.W.T. (*Macoun.*) Medicine Hat, Alberta. (*J. M. Macoun.*) Common in Beaver Creek Valley and in other valleys of the Selkirk Mountains; abundant at Victoria, Nanaimo, Qualicum, Alberni, and numerous other places, Vancouver Island. (*Macoun.*) Canada and Hudson Bay to lat. 57°, and to the headwaters of the Columbia, in the Rocky Mountains; Sitka. (*Hooker, Fl.*)

(2485.) **S. atrovirens,** Muhl. Gram. 43.

S. polyphyllus, Vahl.; Pursh, Fl. I., 57.
S. sylvaticus var. *atrovirens,* Gray, Man. Ed. II. (1856.)

Not uncommon in marshes. Watery places at Halifax, N.S. (*Macoun.*) Caledonia, Guysboro Co., N.S. (*Faribault*). Wet meadows and bogs, Norton, and Fredericton; Grand Manan, N.B. (*Fowler, Cat.*) Quebec, and River Mingan, Lower St. Lawrence. (*St. Cyr.*) Abundant on the sandy banks of the Rouge River, Argenteuil Co., Q. (*D'Urban.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Common at Prescott, Ont. (*Billings.*) Low wet meadows and ditches, common in central Ontario.

(*Macoun.*) Vicinity of Hamilton Ont. (*Logie.*) Swamps at London, Ont. (*Millman. Burgess.*) Point Edward, River St. Clair, Ont. (*J. M. Macoun.*) Fifteen miles up the Kaministiqua River, west of Lake Superior. (*Macoun.*) Sault Ste. Marie; Oxford Lake and Nelson River, Keewatin. (*R. Bell.*) Saskatchewan. *Hooker, Fl.*)

667. ERIOPHORUM, Linn. Gen. 68.

(2486.) **E. cyperinum,** Linn.; Benth. & Hook., Gen. Plant, III., 1052.

Scirpus Eriophorum, Michx., var. *cyperinus*, Gray, Man. Ed. V., 565; Macoun, Cat. No. 1925.

Trichophorum cyperinum, Pers.; Pursh, Fl. I., 57.

Rather common in ditches and swamps throughout eastern Canada. Newfoundland. (*Reeks.*) Whycocomagh, Cape Breton; and Truro, N.S. (*Macoun.*) Magdalen Islands. (*J. Richardson.*) Abundant at Pictou, N.S. (*McKay.*) Glenelg, Guysboro Co., N.S. (*Faribault.*) Campbellton, N.B. (*Macoun.*) Thunder River and St. Sauveur, Q. (*St. Cyr.*) Tadousac, Q. (*A. T. Drummond.*) In pools of water at Huckleberry Rapids, Argenteuil Co., Q. (*D'Urban.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Kemptville, Ont. (*Porter.*) Common around Prescott, Ont. (*Billings.*) Very abundant in central Ontario. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Swamps, London, Ont. (*Burgess. Millman.*) Sault Ste. Marie; Echimamish River, Keewatin. (*R. Bell.*) Abundant at the mouth of the Kaministiqua River, at Fort William, Lake Superior. (*Macoun.*) Hudson Bay; Canada to the Saskatchewan. (*Hooker, Fl.*)

All the preceding notices are supposed to belong to *Scirpus Eriophorum*, Michx., var. *cyperinus*, Gray, which seems to be the common form.

Var. **laxus,** Gray, Man. Ed. V., 565.

Scirpus Eriophorum, Michx., var. *laxus*, Gray, Man. Ed. V., 565.

This is distinguished from all the other forms by its scattered heads, but more particularly by the long pedicelled lateral heads and sessile middle one. Along the Restigouche, near Campbellton, N.B.; wet meadows, Whycocomagh, Cape Breton; common at Belleville, Ont.; also Flat Rock Portage, Lake Nipigon, Ont. (*Macoun.*) Severn River, Keewatin. (*J. M. Macoun.*) Wet places, London, Ont. (*Burgess. Millman.*)

(2487.) **E. lineatum,** Benth. & Hook., Gen. Plant., III., 1052.

Scirpus lineatus, Vahl.; Michx., Fl. I., 32; Pursh, Fl. I. 56; Gray, Man. Ed. V., 566.

Rare and apparently confined to south-western Ontario. Wet gravelly river flats, London, Ont. (*Burgess. Millman.*) Point Aux Pins, Lake Erie. (*Burgess.*) Low ground at the southern end of Pelée Point, Lake Erie. (*Macoun & Burgess.*)

(2488.) **E. alpinum,** Linn.; Hook., Fl. II., 230.

E. Hudsonianum, Michx., Fl. I., 34.
Trichophorum alpinum, Pursh, Fl. I., 57.

Peat bogs and cold swamps; common northward. Mahone Bay, Cape Breton. (*Sommers, Cat.*) Bog near Sydney Mine, Cape Breton. (*Macoun & Burgess.*) Aspy Bay, Cape Breton. (*McKay.*) Grand Falls of Nepisiquit, and near St. John; St. Francis, and Lily Lake; Andover, N.B. (*Fowler, Cat.*) Campbellton, N.B. (*Chalmers.*) Charlo, N.B. (*Fletcher.*) Salt Lake, and Ellis Bay, Anticosti; bogs along the Gaspé coast, and at Trois Pistoles, Q. (*Macoun.*) St. Charles Island, Mingan, Q. (*St. Cyr.*) North shore of Lake Superior. (*Agassiz.*) Beaver meadow, Hooper's Lake, Tudor, and tamarack swamps, Huntingdon, North Hastings; near, Otter Head, and south of Fort William, Lake Superior; White River, north of Lake Superior; and in bogs along Porcupine Mountain, Man. (*Macoun.*) Lake Mistassini, and Rupert River, N.E.T.; Severn River, Keewatin; Charlton Island, and Fort George, James Bay. (*J. M. Macoun.*) From Hudson Bay to Lake Mistassini. (*Hooker, Fl.*) Common in marshes in Beaver Creek Valley, Selkirk Mountains. (*Macoun.*)

(2489.) **E. vaginatum,** Linn.; Hook., Fl. II., 231, (Hares-tail.)

E. cæspitosum, Host.; Pursh, Fl. I., 5.

Peat bogs and swamps from the Atlantic to the Pacific. Newfoundland. (*Reeks.*) Halifax, Truro, and Mahone Bay, Lunenburg Co., N.S. (*Sommers, Cat.*) Truro, N.S.; and North Sydney, and Louisburg, Cape Breton. (*Macoun.*) Magdalen Islands. (*J. Richardson.*) Halifax, N.S. (*Burgess.*) Common in Pictou Co., N.S. (*McKay.*) Common in peat bogs, Kent, and Carleton Co's.; Lancaster, N.B. (*Fowler, Cat.*) Salt Lake, Jupiter River, and Ellis Bay, Anticosti; and in bogs along the Gaspé coast, Q. (*Macoun.*) Grand Island, Mingan, Q. (*St. Cyr.*) Boggy soil, Island of Montreal. (*W. F. McCrea.*) Mer Bleue, near Ottawa. (*Fletcher, Fl. Ott.*) Bog near Kemptville, Ont. *Porter.*) Cedar swamps and bogs, North Hastings, Ont.; in a swamp five miles north of Colborne, Ont. (*Macoun.*) Mossy bog, near London, Ont.

(*Burgess. Millman.*) Lake Mistassini, N.E.T.; Beren's River, and Severn River, Keewatin. (*J. M. Macoun.*) Bogs, Lake Nipigon, Ont.; Porcupine Mountain, Man.; abundant in swamps along the Bow River, and frequent in marshes, Rocky Mountains; east of Stewart's Lake, Northern British Columbia. (*Macoun.*) Canada to Fort Enterprise. (*Hooker, Fl.*) Sitka. (*Rothr. Alask.*) Cumberland Islands. (*Parry.*) Banff, Rocky Mountains. (*Prof. Fowler.*) Greenland. (*Lange.*)

(2490.) **E. russeolum,** Fries.

E. vaginatum, var. γ., Hook., Fl. II., 231.

Rather uncommon in bogs eastward. Newfoundland. (*Reeks.*) Coast of Labrador. (*Butler.*) Magdalen Islands. (*McKay.*) Bog, Straits of Canso, N.S. (*Macoun.*) Bog, near Richibucto; Cape Bald, Port Elgin, Hillsborough, Cape Enrage; Chipman, N. B. (*Fowler, Cat.*) Bog, Salt Lake, Anticosti; summit of Mount Albert, Gaspé, Q. (*Macoun.*) Ouatchechou, Q. (*St. Cyr.*) Table Top Mountain, Gaspé, Q. (*Porter.*)

(2491.) **E. capitatum,** Host.; Hook., Fl. II., 231.

E. Scheuchzeri, Hoppe.; Rothr. Alask., 457.
E. Chamissonis, C. A. Meyer; Rothr. Alask., 457.

Peat bogs and river margins, chiefly westward. Newfoundland. (*Cormack.*) Labrador. (*Butler.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) Hudson Bay, lat. 56°. (*J. M. Macoun.*) Bogs, Porcupine Mountain, Man.; common along the Bow River, at Castle Mt. and bordering the marshes along the Columbia, between Golden City and Donald; in marshes along Beaver Creek, Selkirk Mountains, B.C.; Stewart's Lake, B.C. (*Macoun.*) Vancouver city, Burrard Inlet, B.C. (*Prof. Fowler.*) Island Lake, B.C. (*Hill.*) Lost Lake, Cedar Hill, near Victoria, and Westwood's swamp, near Nanaimo, Vancouver Island. (*Macoun.*) Swamps on Mount Finlayson, Vancouver Island. (*Fletcher.*) Kotzebue Sound, Sitka and Ounalashka. (*Rothr. Alask.*) Fort Churchill, and northward to Repulse Bay and Cape Lady Pelly. (*Dr. Rae.*) Point Barrow. (*John Murdoch.*) Cumberland Island. (*Parry.*) From Quebec to the swamps on the summits of the Rocky Mountains, and to the Arctic coasts and islands. (*Hooker, Fl.*) Port Kennedy, lat. 72°. (*Dr. Walker.*) Greenland. (*Lange.*)

Var. β., Hook., Fl. II., 231.

E. callitrix, Cham.; Rothr. Alask., 457.

Island of St. Lawrence. (*Rothr. Alask.*) The leaves in this variety are scabrous.

(2492.) **E. Virginicum,** Linn.; Michx., Fl. I., 34; Pursh, Fl. I., 58; Hook., Fl. II., 231.

Not uncommon in bogs eastward. Newfoundland. (*Reeks.*) Brigus, Newfoundland. (*R. Bell.*) Magdalen Islands. (*J. Richardson.*) Pictou, and Guysboro Co., N.S. (*McKay.*) Pictou, N.S. (*Burgess.*) Caledonia, Guysboro Co., N.S. (*Faribault.*) Common in bogs in northern counties; Lily Lake, N.B. (*Fowler, Cat.*) Ouatchechou; Valcartier, Q. (*St. Cyr.*) Boggy margins of small lakes, Argenteuil Co., Q. (*D'Urban.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Kemptville, Ont. (*Porter.*) Marsh west of Prescott Junction, Ont. (*Billings.*) Tamarack swamps, Hastings Road, and Marmora, Hastings Co. Ont.; swamp, five miles north of Colborne, Ont. (*Macoun.*) Millgrove, near Hamilton, Ont. (*Logie.*) London, Ont.; and Parry Sound, Georgian Bay. (*Burgess.*) Oba Lake, Ont. (*R. Bell.*) North shore of Lake Superior. (*Agassiz.*) Mer Bleue, Ottawa; Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Canada to the Saskatchewan. (*Hooker, Fl.*)

Var. **album,** Gray, Man. Ed. V., 566.

Wool quite white, heads much smaller. In a bog near the town of North Sydney, Cape Breton. (*Macoun.*)

(2493.) **E. polystachyon,** Linn.; Pursh, Fl. I., 58; Hook., Fl. II., 231.

E. polystachyon, β., Michx., Fl. I., 34.
E. polystachyon, L., var. *latifolium*, Gray, Man. Ed. V., 566.

Very common in marshes and bogs, under various forms, from the Atlantic to the Pacific. Newfoundland. (*Reeks.*) Magdalen Islands. (*J. Richardson.*) Aspy Bay, Cape Breton; and Magdalen Islands. (*McKay.*) Caledonia, Guysboro Co., N.S. (*Faribault.*) Common in bogs throughout New Brunswick. (*Fowler Cat.*) Bake Apple Bog, North Sydney, Cape Breton; and Truro, N.S. (*Macoun.*) Hunting Island, Mingan; Ouatchechou, and St. Sauveur, Q. (*St. Cyr.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Jessup's Swamp and common northward, from Prescott, Ont. (*Billings.*) The Dell, Ancaster, near London, Ont. (*Logie.*) London, Ont.; Lake of the Woods, and Rosseau River, Man. (*Burgess.*) Swamp near Turtle Mountain, Man. (*Millman.*) Between Badger Creek and Turtle Mountain, Man. (*Dawson.*) Moose Mountain Creek, Man. (*J. M. Macoun.*) Abundant at Flat, and Gopher creeks, Man.; swamps, Bear Hills, Alberta; rather common from Morley westward through the Rocky and Selkirk mountains, B.C.; on the summit of Mount Arrowsmith, and along the shores of Horne Lake, near Qualicum, Vancouver Island. (*Macoun.*) Norton Sound to Point

Barrow and the Arctic coast. (*Rothr. Alask.*) Canada to the Rocky Mountains, and to the Arctic sea-shore and islands. (*Hooker, Fl.*) Between Fort Churchill and York Factory. (*Dr. Rae.*) Port Kennedy, lat. 72°. (*Dr. Walker.*) Nottingham, and Digge's islands, Hudson Strait. (*R. Bell.*)

Var. **angustifolium,** Gray, Man. Ed. V., 566.

E. angustifolium, Roth.; Pursh, Fl. I., 58; Hook., Fl. II., 231.

Doubtless many of the references under var. *latifolium* belong here, but we had no means of determining, and so placed them all under the general head. Campbellton, N.B. (*Chalmers.*) North Sydney, Cape Breton, and Yarmouth, N.S.; marshes, Mount Albert, Gaspé, Q.; bogs, Salt Lake, Anticosti; peaty swamps, near Belleville, Ont.; Red Rock, Lake Superior. (*Macoun.*) Kemptville, Ont. (*Porter.*) Greenland. (*Lange.*)

(2494.) **E. gracile,** Koch.; Hook., Fl. II., 231.

E. angustifolium, Torr. Bot. N. York, II., 359.

Peat and other bogs, common eastward. Newfoundland. (*Cormack.*) Bogs, Windsor, and Halifax, N.S. (*Sommers, Cat.*) Goldenville, Guysboro Co., N.S. (*Faribault.*) Dartmouth, N.S. (*McGill Coll. Herb.*) Rather common at Bass River; Lancaster, N.B. (*Fowler, Cat.*) Dow's swamp and other places, Ottawa; uncommon. (*Fletcher, Fl. Ott.*) Dr. Jessup's swamp and northward from Prescott, Ont. (*Billings.*) Loboro Lake, Ont. (*Prof. Fowler.*) Swamp, a little east of Belleville, Ont.; Big Swamp, Murray, and in marshy meadows near Trenton, Northumberland Co.; Chicken Bay, shore of Lake Huron, and marshy spots, Point Aux Pins, Lake Superior. (*Macoun.*) Churchill River, and York Factory, Hudson Bay. Cape Chudleigh, Hudson Strait. (*R. Bell.*) Saskatchewan to the Arctic sea. (*Hooker, Fl.*) Fort Wrangel, Alaska. (*Meehan.*)

Var. **paucinervium,** Engelm.; Gray, Man. Ed. V., 566.

Mossy bog near London, Ont. (*Millman. Burgess.*)

668. RHYNCHOSPORA, Vahl. (BEAK-RUSH.)

(2495.) **R. fusca,** Rœm. & Schultes, Syst. II., 81.

R. alba, β., fusca, Pursh, Fl. I., 49.

Schœnus fuscus, Linn., Sp. II., 1664.

Peat bogs and beaver meadows. Peat bogs, North Sydney, Cape Breton. (*Macoun & Burgess.*) Near Hampton, N.B. (*Fowler, Cat.*)

Hampstead; Trout Lake, Charlotte Co., N.B. (*Brittain.*) Beaver meadow, Hooper's Lake, North Hastings, Ont. (*Macoun.*) Lake Joseph, Muskoka Co., Ont. (*Burgess.*)

(2496.) **R. alba,** Vahl.; Hook., Fl. II., 233; Pursh, Fl. I., 49.
Schœnus albus, Linn.; Michx., Fl. I., 5.

Peat bogs and beaver meadows, extending from the Atlantic to the Pacific. Newfoundland. (*Reeks.*) North West Arm, Halifax, N.S. (*Sommers, Cat.*) Liscomb River, Guysboro Co., N.S. (*Faribault.*) Wet bogs near Sydney, Cape Breton. (*Macoun.*) Peat bogs, near Richibucto; border of Clifton Lake, N.B. (*Fowler, Cat.*) Charlotte Co., N.B. (*Vroom.*) Hampton, N.B. (*Brittain.*) Mer Bleue, Ont., and Lake Flora, Hull, Q. (*Fletcher, Fl. Ott*) Salt Lake, and Ellis Bay, Anticosti; Beaver meadow, Hooper's Lake, and rear of Samuel Baker's Farm, Huntingdon, North Hastings; Big Swamp, Murray, Northumberland Co.; border of South Lake, Snowden, Victoria Co., Ont.; marsh at Chicken Bay, Lake Huron. (*Macoun.*) Mossy bog, London, Ont., Parry Sound, Georgian Bay. (*Burgess.*) Shore of Horne Lake, near Qualicum, and at Sproat Lake, Alberni, Vancouver Island. (*Macoun.*) Sitka. (*Rothr. Alask.*)

(2497.) **R. capillacea,** Torr., Fl. I., 55.
Schœnus setaceus, Muhl. Gram., 6.

Beaver meadows, Hooper's Lake, and northward along the Hastings Road, Tudor, Hastings Co.; abundant in grassy places, Presqu'ile Point, Lake Ontario, and in a marsh at Owen Sound, Ont. (*Macoun.*) Niagara Falls, and London, Ont. (*Burgess.*)

(2498.) **R. glomerata,** Vahl.; Pursh, Fl. I., 48; Hook., Fl. II., 233.
Schœnus glomeratus, Linn.; Muhl. Gram. 8.
S. capitellatus, Michx., Fl. I., 36.

Beaver meadow, Hooper's Lake, Hastings Road, and beaver meadow in rear of Samuel Baker's Farm, Huntingdon, Hastings Co., Ont. (*Macoun.*) Moon River, Muskoka Co.; and Parry Sound, Ont. (*Burgess.*)

669. CLADIUM, R. Br., Hist. Jam., 114. (TWIG-RUSH.)

(2499.) **C. mariscoides,** Torr. Cyp., 372.
Schœnus mariscoides, Muhl.; Torr., Fl. I., 54.

Not very common, but occasionally met with in marshes. Marsh,

North Sydney, Cape Breton. (*Macoun & Burgess.*) Upper Stewiacke, N.S. (*McGill Coll. Herb.*) Potter's Lake, near St. Stephen, N.B. (*Vroom.*) Grassy points, running into Brighton Harbor, on the north side of Presqu'ile Point, Lake Ontario; swamp in Killadar, Addington Co.; on a mud flat at the junction of the Peterson and Bobcaygeon roads, Victoria Co.; marshes, Point Edward, St. Clair River, Ont. (*Macoun.*) Blackstone Lake, and Port Cockburn, Muskoka Co., Ont. (*Burgess.*)

670. SCLERIA, Berg. (NUT-RUSH.)

(2500.) **S. trigiomerata,** Michx., Fl. II., 168; Pursh, Fl. I., 46.

In a sandy thicket, near London, Ont.; very rare. (*Burgess.*)

(2501.) **S. verticiliata,** Muhl.; Pursh, Fl. I., 45.

Hypoporum verticillatum, Nees.; Torr. Cyp., 384.

Very abundant on grassy points running into the marshes bordering Presqu'ile Point, Lake Ontario, 1865. (*Macoun.*)

671. KOBRESIA, Willd. Spec. Pl. IV., 205.

(2502.) **K. scirpina,** Willd.; Rich. App., Ed. II., 34.

Elyna spicata, Schrad.; Hook., Fl. II., 228.

On the summits of the Rocky Mountains, around Kicking Horse Lake. (*Macoun.*) Shady places on the Rocky Mountains; barren grounds, between lat. 64° and the Arctic Sea. (*Hooker, Fl.*) Greenland. (*Lange.*) Arctic coast. (*Rothr. Alask.*)

(2503.) **K. caricina,** Willd.

Elyna caricina, Mert. & Koch.; Hook., Fl. II., 228.

On the summits of the Rocky Mountains, at Castle Mt. and Kicking Horse Lake. (*Macoun.*) Dry banks of the Rocky Mountains. (*Hooker, Fl.*) Greenland. (*Lange.*)

672. CAREX, Linn. Gen. 1046. (SEDGE.)

I. *Spike solitary and simple. Terminal and androgynous. Colored.* * Bracts scale-like.

Stigmas II.

(2504.) **C. nardina,** Fries. Mant. II., 55 (1835.)

C. Hepburnii, Boott, Hook., Fl. II., 209 (1840.)

On mountain summits, and in the arctic regions. Nottingham Island, off Cape Wolstenholme, Hudson Strait. (*R. Bell.*) "The Twins," James Bay. (*J. M. Macoun.*) Eastern summit of North Kootanie Pass, Rocky Mountains. (*Dawson.*) On the more elevated summits of the Rocky Mountains, from Castle Mountain westward to Mount Stephen; summit of Stewart's Lake Mountain, B.C. (*Macoun.*) Rocky Mountains. (*Hooker, Fl.*) Greenland. (*Lange.*)

(2505.) **C. capitata,** Linn. Sp. Pl. Ed. II., 1381; Hook., Fl. II., 208.

Hudson Bay, and Rocky Mounntains. (*Hooker, Fl.*) Greenland (*Lange.*) We have no Canadian specimens of this species.

(2506.) **C. filifolia,** Nuttall, Gen. N. Am. Pl. II., 204 (1818); Hook., Fl. II., 208.

Uncinia brevicta, Torr. Cyp., 428, (1836.)
Kobresia globularis, Dew. Sill. Journ. XXIX., 253, (1836.)

Dry gravelly soil, Qu'Appelle Valley, near Fort Ellice,; abundant on hillsides at Morley, and in the foothills of the Rocky Mountains. (*Macoun.*) Carleton House, on the Saskatchewan; also in the Rocky Mountains. (*Hooker, Fl.*)

(2507.) **C. dioica,** Linn. Sp. Pl., 972.

Along the River St. Lawrence, at Grand Metis, Q. (*Pringle.*) There is much doubt regarding Pringle's specimens, as Prof. Bailey does not include this species in his catalogue of North American Carices. I have not seen Pringle's specimens.

(2508.) **C. gynocrates,** Wormsk. in Herb. Hornm.

C. dioica, Schweinitz & Torrey, Mon. (1824); Hook., Fl. II., 208.
C. dioica, Linn., var. *Davalliana,* Dew. Sill. Journ. X., 283, (1826.)
C. Redowskiana, C. A. Meyer, Cyp. Nov. t. 4, (1830.)
C. monosperma, Macoun, in Herb.; Bailey Carex. Cat. (1882.)
C. nigricans, Dew. Sill. Journ. XXIX., 249, (1836.)

Cedar and other swamps throughout the country. Restigouche Co.; Arthurette, N.B. (*Fowler, Cat.*) Belledune, N.B. (*Chalmers.*) Bogs, Salt Lake, Anticosti. (*Macoun.*) Dow's Swamp and other localities, Ottawa. (*Fletcher, Fl. Ott.*) Swamp near Belleville, and in bogs, North Hastings; also Big Swamp, Murray, Northumberland Co., Ont. (*Macoun.*) Swamp at Saugeen, Ont. (*Burgess.*) Abundant in swamps

around Lake Superior, and at Red Rock, Nipigon River; swamps along the Red Deer River, at the head of Lake Winnipegoosis, lat. 53°; common in bogs and swamps from Morley westward through the Rocky and Selkirk mountains, B.C. (*Macoun.*) Carleton House, on Saskatchewan, to the Arctic sea; also Rocky Mountains. (*Hooker, Fl.*) Greenland. (*Lange.*) Churchill River, and York Factory, Hudson Bay. (*R. Bell. Dr. Rae.*)

Stigmas III.

(2509.) **C. lelocarpa,** C. A. Meyer, Cyp. Nov. 208, t. 5, (1830); Hook., Fl. II., 208.

C. anthoxantha, Presl. Reliq. Haenk, 203, *vide* Bœckeler; Hook., Fl. II., 209.

Near the glacier on the Stikine River. (*Cowley.*) Sitka and Ounalashka. (*Rothr. Alask.*)

(2510.) **C. circinata,** C. A. Meyer, Cyp. Nov. 209, t. 6, (1830); Hook., Fl. II., 209.

Sitka. (*Barclay.*) Sitka, and Ounalashka. (*Rothr. Alask.*) Our specimens were collected by Barclay.

(2511.) **C. Lyoni,** Boott, Hook., Fl. II., 209.

Rocky Mountains. (*Hooker, Fl.*) According to Drummond, who collected in the Rocky Mountains, between the Athabasca and lat. 55°. Since his time no collections have been made in that region.

(2512.) **C. nigricans,** C. A. Meyer, Cyp. Nov. 210, t. 7, (1830); Hook., Fl. II., 210.

C. Pyrenaica, Torr. Cyp., 403, (1836.)

Western summit of North Kootanie Pass, Rocky Mountains. (*Dawson.*) Very common on the summits of the higher Rocky Mountains, from Castle Mt. westward to the Selkirk Mountains, B.C.; Mount Arrowsmith, Vancouver Island, alt. 5,600 feet. (*Macoun.*) Sitka, and Ounalashka. (*Rothr. Alask.*) Rocky Mountains. (*Hooker, Fl.*)

(2513.) **C. Pyrenaica,** Wahl. Köngl. Acad. Handl. XXIV., 139, (1802.)

C. micropoda, C. A. Meyer, Cyp. Nov. 210, t. 6, (1830); Hook., Fl. II., 209.
C. nigricans, Torr. Cyp., 402, (1836.)
C. Davalliana, Dew. Sill. Journ. XXVIII., 271, (1835.)

Abundant on the summits of the high mountains at Roger's Pass, Selkirk Mountains, B.C.; Mount Arrowsmith, Vancouver Island, alt. 5,500 feet. (*Macoun.*) Ounalashka. (*Rothr. Alask.*)

(2514.) **C. exilis,** Dew. Sill. Journ. XIV., 351, (1828.)

Peat bogs and tamarack swamps. Newfoundland. (*La Pylaie.*) Peat bog at the head of the North-west Arm, Halifax, N.S.; bogs, Salt Lake, Anticosti. (*Macoun.*) Lakeville; Trout Lake, near St. George, N.B. (*Brittain.*) Mer Bleue, near Ottawa. (*Fletcher, Fl. Ott.*)

(2515.) **C. pauciflora,** Lightf. Fl. Scot., 543, t. 6, (1777); Hooker, Fl. II., 210.

C. leucoglochin, Dew. Sill. Journ. X., 42, (1826.)

Peat bogs, and cedar and other swamps, from the Atlantic to the Pacific. Newfoundland. (*Reeks.*) Wet boggy ground at the head of the North West Arm, Halifax, N.S. (*Macoun & Burgess.*) Bog near St. John; mouth of the Madawaska; and Chipman, N.B. (*Fowler, Cat.*) In bogs, Salt Lake, and Ellis Bay, Anticosti; summit of Mount Albert, Shickshock Mountains, Gaspé, Q. (*Macoun.*) Swamps at Ouatchechou, Q. (*St. Cyr.*) Abundant in a swamp Kennebec, Addington Co., Ont. (*Macoun.*) Border of a peat swamp at London, Ont. (*Burgess. Millman.*) Swamp, One-mile Portage, Nipigon River. (*Macoun.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Border of Langford Lake, Goldstream, Vancouver Island. (*Macoun.*) Rocky Mountains. (*Hooker, Fl.*) Sitka. (*Rothr. Alask.*)

(2516.) **C. microglochin,** Wahl. Köngl. Acad. Handl. XXIV., 140, (1802); Hook. Fl. II., 210.

Boggy ground, North Twin Island, James Bay, 1887. (*J. M. Macoun.*) Common in boggy places and along rivers and small streams, from Morley westward through the Rocky Mountains to Donald in the Columbia Valley, 1885. (*Macoun.*) Easily distinguished from *C. pauciflora,* by "a conspicuous projecting racheola" which takes the place of the stiff persistent style in that species.

(2517.) **C. polytricholdes,** Muhl. in Willd. (1802); Pursh, Fl. I., 39; Hook., Fl. II., 209.

C. leptalea, Wahl. Köngl. Acad. Handl. XXIV., 139, (1803.)
C. microstachya, Michx., Fl. II., 169, (1803.)

Swamps and bogs throughout Canada from the Atlantic to the Pacific. Newfoundland. (*Reeks.*) In a swamp at Truro, N.S. (*Macoun.*) Rather common at Bass River; Spurr's Cove, N.B. (*Fowler, Cat.*) Becscie River, Anticosti; Cape Rosier, and near Point Fame, Gaspé coast. (*Macoun.*) Beaumont swamps, and Mingan, Q. (*St. Cyr.*) Swamps at Ottawa. (*Fletcher, Fl. Ott.*) Kemptville, Ont. (*Porter.*) Abundant in black ash, elm, and cedar swamps throughout central Ontario.

(*Macoun.*) Low grounds around Prescott, Ont. (*Billings.*) Vicinity of Hamilton, Ont. (*Logie.*) Swamps, London, Ont. (*Burgess. Millman.*) Owen Sound, Ont.; common around Lake Superior and up the Nipigon River; swamps at Port Arthur, and westward through the forest country and prairie to Brandon, Man. (*Macoun.*) Michipicotin River, Ont. (*R. Bell.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Common in swamps and bogs from Morley westward through the Rocky Mountains, to the summit of the Selkirk Mountains, B.C.; boggy places at Nanaimo and on Mount Mark, Vancouver Island. (*Macoun.*) Swamp near Victoria, Vancouver Island. (*Fletcher.*) Hudson Bay to Norway House, north of Lake Winnipeg. (*Hooker, Fl.*)

(2518.) **C. scirpoidea,** Michx., Fl. I., 171, (1803); Pursh, Fl. I., 34; Hook., Fl. II., 208.

C. Michauxii, Schwein. An. Tab. I., 64, (1823.)
C. Wormskioldiana, Schwein. & Torr. I., 294, (1824.)
C. scirpina, Tuckerman, Enum. Meth. 8, (1843.)

Cold boggy places or mountain summits. Summit of Mount Albert, Shickshock Mountains, Gaspé, Q. (*Porter.*) Bog at Sydney Mine, Cape Breton; Salt Lake, and Jupiter River, Anticosti; Red, and Chicken bays, Lake Huron, Ont. (*Macoun.*) Swamp between Badger Creek and Turtle Mountain, Man. (*Dawson. Burgess.*) Severn Lake, Keewatin; Souris Plain, Man. (*J. M. Macoun.*) Griswold, Man. (*Burman.*) Not uncommon on the prairies, from Brandon north-westward to Edmonton; abundant in boggy meadows, from Morley westward through the Rocky, and Selkirk mountains, B.C.; summit of Mount Arrowsmith, alt. 5,500 feet, Vancouver Island. (*Macoun.*) Fort Norman, Mackenzie River; Rocky Mountains. (*Hooker, Fl.*) Arctic sea-coast. (*Richardson.*) Greenland. (*Lange.*)

(2519.) **C. obtusata,** Liljeblad, Köngl. Acad. Handl. (1793); Hook., Fl. II., 209.

C. affinis, R. Br. Rich. App. Frankl. Narr., 763, (1823); Hook., Fl. II., 209.
C. Backiana, Dew. Sill. Journ. XXIX., 250, (1836.)
C. obesa, var. *monostachya,* Bœckeler, Linnæa XLI., 185.

Abundant in the prairie region on gravelly slopes, and amongst the foot-hills. Newfoundland. (*Reeks.*) Near Moose Mountain Creek, Souris Plain, Assiniboia. (*J. M. Macoun.*) Fort Qu'Appelle, Assiniboia. (*Fletcher.*) Quite common on dry slopes, from Portage la Prairie westward to the Rocky Mountains, and northward throughout the Saskatchewan region; on dry gravelly slopes in the foot-hills at Morley, and westward to Canmore, in the Rocky Mountains; Bridge

Creek, Fraser River, B.C. (*Macoun.*) Carleton House, Saskatchewan River and wooded country northward; Rocky Mountains. (*Hooker, Fl.*)

(2520.) **C. rupestris,** Allioni, Fl. Ped. II., 264, t. 92, (1823.)

C. attenuata, R. Brown, Rich. App. Frankl. Voy., 763, (1823.)
C. Drummondiana, Dew. Journ. XXIX., 251, (1836.)
C. rupestris, var. *Drummondiana*, Bailey, Carex, Cat. (1884.)

Border of the first mountain gorge west from Kananaskis Station, Rocky Mountains. (*Macoun.*) Fort Norman, Mackenzie River; Rocky Mountains. (*Hooker, Fl.*)

(2521.) **C. ursina,** Dew. Sill. Journ. XXVII., 240, (1835.)

C. glareosa, var. *cæspitosa*, Bœck.; Bailey, Carex, Syn. No. 212, (1886.)
C. glareosa, var. *ursina*, Bailey, Carex. Cat. (1884.)

Arctic sea-coast. (*Hooker, Fl.*) Greenland. (*Lange.*)

* * *Bracts foliaceous. Green.*

(2522.) **C. Backii,** Boott, Hook., Fl. II., 210, (1840.)

C. Willdenovii, Gray, Gram. & Cyp. II., No. 169, in part.

Not uncommon on dry, grassy and rocky places; in open woods and thickets. Newfoundland. (*Reeks.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Miriwin's Woods, near Prescott, Ont. (*Billings.*) Port Colborne, Ont. (*McGill Coll. Herb.*) Carleton Place, Ont.; dry ground at Belleville and Shannonville, Hastings Co.; Bald Island, Balsam Lake, Victoria Co.; Nipigon River, north of Lake Superior; Portage la Prairie, and thickets near Brandon, and Rapid City, Man.; valley of the Fraser River, at Boston Bar, B.C. (*Macoun.*) On the Saskatchewan River, at Cumberland House and Fort Carleton; Lake Winnipeg and Rocky Mountains. (*Hooker, Fl.*)

(2523.) **C. Willdenovii,** Schk. (1806); Pursh, Fl. I., 39, (1814.)

On a sandy island in the Lake of the Woods, near the mouth of Rainy River, 1872. (*Macoun.*)

(2524.) **C. Steudelii,** Kunth. Enum. Pl. II., 480, (1837.)

C. Willdenovii, var. Muhl. Gram. 230, (1817.)

On banks along Lake Erie, at Port Stanley; chiefly on clay bluffs west of the railway terminus, 1882. (*Macoun.*)

(2525.) **C. Geyeri,** Boott, Linn. Trans. XX., 18, (1846.)

Western summit of North Kootanie Pass Rocky Mountains, 1883. (*Dawson.*)

II. *Spike composed of sessile and androgynous, or rarely diœcious spikelets.*

Stigmas II.

* *Spikes diœcious, or the spikelets androgynous with the male and female flowers irregularly intermixed.*

(2526.) **C. bromoides,** Schk. (1802); Pursh, Fl. I., 35, (1814); Hook., Fl. II., 212.

Swamps and wet grassy places; rather rare. Marsh near Truro, N.S. (*Macoun.*) Pollet River and Portage, Petitcodiac; Arthurette, and Salmon River, N.B. (*Fowler, Cat.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Common in swamps at Prescott, Ont. (*Billings.*) Piece of damp woods east of Belleville, Ont. (*Macoun.*) Swamps near Hamilton, Ont. (*Logie.*) Bogs and swamps at London, and Parry Sound, Ont. (*Burgess.*) British America; Rocky Mountains. (*Hooker, Fl.*)

(2527.) **C. siccata,** Dew. Sill. Journ. X., 278, (1826): Hook., Fl. II., 212.

C. pallida, C. A. Meyer, Cyp. Nov. No. 21, (1830.)

Dry gravelly, or sandy soil, having a wide range to the north-westward. Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Grand Trunk gravel pit, near Prescott, and woodlands west of Brockville, Ont. (*Billings.*) Dry thickets east and west of Belleville, Ont.; Rice Lake Plains, and sandy ground generally throughout central Ontario. (*Macoun.*) Vicinity of London, Ont.; Lake of the Woods, and Emerson, Man. (*Burgess.*) Red River prairie, lat. 49°. (*Dawson.*) Stony Mountain, Man. (*Prof. Fowler.*) East coast of Lake Nipigon, and at the Pic and Michipicotin rivers, Lake Superior; Point Meuron, and Kakabeka Falls, Kaministiqua River; very abundant in many parts of the prairie region, especially on gravelly slopes; common on dry hill-sides, at Morley and westward to Canmore in the Rocky Mountains; abundant around Cache Creek, and on the dry slopes near Spence's Bridge, B.C. (*Macoun.*) Methy Portage and Saskatchewan River. (*Richardson.*) Pelly River, lat. 63°. N.W.T. (*Dawson.*) Cumberland House, Saskatchewan River; Lake Winnipeg and Rocky Mountains. (*Hooker, Fl.*)

(2528.) **C. disticha,** Hudson, Fl. Angl., 403, (1762.)

C. intermedia, Good. Linn. Trans. II., 154, (1792); Hook., Fl. II., 212.
C. Sartwellii, Dew. Sill. Journ. XLIII., 90, (1842.)

Marshes and margins of bogs, rather local. Newfoundland. (*Reeks.*) River side, Kemptville, Ont. (*Porter.*) Ditch along the G. T. Railway, between the wooden bridges, Belleville; also on Bleecker's Farm, west of the college, and on Ferry Point, south of Belleville Ont.; abundant

in marshes, from Winnipeg westward and northward to the Rocky Mountains; rather common in marshes and on the borders of ponds at Morley and westward to Canmore, within the Rocky Mountains. (*Macoun.*) Fort Carleton, on the Saskatchewan River. (*Hooker, Fl.*)

(2529.) **C. Douglasii,** Boott, Hook., Fl. II., 213, (1840.)

C. Nuttallii, Dew. Sill. Journ. XLIII., 92, (1842.)
C. Meekii, Dew. Sill. Journ. XXIV., 48, (1857.)
C. Douglasii var. *minor*, Olney, Bot. King's Exp. V., 363, (1871.)
C. Fendleriana, Bœckeler, Linnæa XXXIX., 135, (1875.)
C. Douglasii, var. *densi-spicata*, Dew. Sill. Journ. XXXII., 41, (1861.)

Abundant on dry sand or gravel, creeping like *C. siccata* amongst loose stones and throwing up stems at intervals. In the Qu'Appelle valley at Fort Ellice, and for many miles to the west; on sand-hills west of Moose Jaw, Assiniboia. (*Macoun.*) Souris Plain, near Moose Mountain, Assiniboia. (*J. M. Macoun.*) Rocky Mountains. (*Hooker, Fl.*) Red River prairie, lat. 49°, Man. (*Dawson.*)

(2530.) **C. marcida,** Boott, Hook., Fl. II., 212, (1840.)

Very abundant on the whole prairie region, from the margin of the woods on the east, to the Rocky Mountains, and northward through the whole Saskatchewan country. (*Macoun.*) Souris Plain, Assiniboia. (*J. M. Macoun.*) Red River, Man.; in a prairie swamp. (*Dawson.*) Abundant in marshy meadows at Morley, and westward to Castle Mountain within the Rocky Mountains; margins of ponds at Kamloops and Cache Creek, B.C. (*Macoun.*)

(2531.) **C. Cayana,** Desv. Fl. Chili, 205.

Not uncommon in mountain marshes at Kananaskis Station, Rocky Mountains, lat. 51°, 1885. (*Macoun.*)

* * *Spikelets androgynous, aggregated, or partly aggregated at the top of the stem.*

† *Spikelets male at top.*

(2532.) **C. vulpinoidea,** Michx., Fl. I., 69, (1803.)

C. multiflora, Muhl. (1805); Hook., Fl. II., 212; Pursh, Fl. I., 36.
C. setacea, Dew. Sill. Journ. IX., 61, (1825.)
C. scabrior, Sartw.; Dew. Sill. Journ. VIII., 349, (1849.)
C. vulpinæformis, Tuckerman, Enum. Meth., 9, (1843.)
C. bracteosa, Schweinitz, An. Tab. (1823.)
C. multiflora, var. *microsperma*, Dew. Sill. Journ. XI., 317, (1826.)

Abundant in many places throughout eastern Canada. Near St. John, N.B. (*Fowler, Cat.*) Near Andover; Hampton, N.B. (*Brittain.*)

Lower Tobique River, N.B. (*Wetmore.*) Beaumont, Beauport and La Canardière, Q. (*St. Cyr.*) Near Kemptville, Ont. (*Porter.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Montreal Mountain. (*McGill Coll. Herb.*) Abundant in wet meadows throughout central Ontario, and westward to the last portage on Nipigon River, north of Lake Superior. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Boggy ground, London, Ont. (*Burgess. Millman.*) Black River, Lake Winnipeg, (*J. M. Macoun.*) Nelson River, Keewatin. (*R. Bell.*) Canada. (*Hooker, Fl.*)

(2533.) **C. teretiuscula,** Good., Linn. Trans. II., 163, (1792); Hook., Fl. II., 213.

C. teretiuscula, var. *major*, Koch., Fl. Germ., 867.

C. paniculata, var. *teretiuscula*, Wahl. (1803); Torr. Cyp. 390.

Rather common in marshes and by lake margins from the Atlantic to the Pacific. Bogs, Truro, and Windsor, N.S. (*Macoun*) Swamps, Kouchibouguac, and Salmon rivers, N.B. (*Fowler, Cat.*) Campbellton, N.B. (*Chalmers.*) Bogs, Salt Lake, Anticosti, and at Fox River, Gaspé, Q. (*Macoun.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Common in marshes at Prescott, Ont. (*Billings.*) Common in marshes along the Bay of Quinte, and in all tamarack swamps, and by ponds throughout central Ontario; Blackwater River, Lake Nipigon, north of Lake Superior. (*Macoun.*) Swamps, London, Ont. (*Burgess. Millman.*) Lake Mistassini, and Rupert River, N.E.T. (*J. M. Macoun.*) York Factory, Hudson Bay. (*R. Bell.*) In marshes and on the margins of ponds through the Rocky and Selkirk mountains, and westward through British Columbia to the coast; in swamps and marshes near Cedar Hill, Vancouver Island. (*Macoun.*) Cumberland House, on the Saskatchewan, and westward to the Rocky Mountains. (*Hooker, Fl.*)

Var. **ramosa,** Boott. Ill., 145, (1858.)

C. prairea, Dew., Wood's Botany, 750, (1861.)

C. paradoxa, Boott, Hook., Fl. II., 213, (1840.)

Generally westward, especially in the prairie region. Big swamp, Murray, Northumberland Co.; marshy border of Round Lake, Peterboro Co., Ont. (*Macoun.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Very common in marshes throughout Manitoba and westward over the whole of the great plains, and foot-hills of the Rocky Mountains, and northward to Lake Athabasca; occasionally in the Rocky Mountains, at Castle Mountain and in the Columbia Valley; borders of marshes and lakes at Cedar Hill, Goldstream, Qualicum, Nanaimo and Alberni, Vancouver Island. (*Macoun.*) Marshes near Victoria, Vancouver Island. (*Fletcher*)

(2534.) **C. stipata,** Muhl. Cat. (1805); Pursh, Fl. I., 35.

C. vulpinoidea, Torr. (1836); Hook., Fl. II., 212.
C. Crus-corvi, Shuttleworth; Sommérs, Cat., Nova Scotia Plants.

Very common in ditches and wet meadows, extending from the Atlantic to the Pacific. Newfoundland. (*Reeks.*) Halifax, and Annapolis, N.S. (*Macoun.*) Near Bedford, N.S. (*Sommers, Cat.*) Pictou Co., and Magdalen Islands, N.S. (*McKay.*) Common at Bass River; Norton, N.B. (*Fowler, Cat.*) Lower Tobique River, N.B. (*Hay.*) Dalhousie, N.B. (*Chalmers.*) Tadousac, mouth of Saguenay River, Q. (*Barnston.*) Water Cove, Saguenay River, Pentecost River, and Island of Orleans, Q. (*St. Cyr.*) Murray Bay, River St. Lawrence; also St. Andrews, Q. (*McGill Coll. Herb.*) Wet meadows near Ottawa. (*Fletcher, Fl. Ott.*) Common at Prescott, Ont. (*Billings.*) Kemptville, Ont. (*Porter.*) Abundant in meadows and ditches throughout central Ontario and extending westward to Lake Nipigon, at the mouth of the Blackwater River. (*Macoun.*) Swamps, vicinity of Hamilton, Ont. (*Logie.*) Swamps at London, Ont. (*Burgess.*) Muskeg Creek, Lake Winnipeg. (*J. M. Macoun.*) Marshy places along Lake Winnipegoosis, and at Swan Lake House, Man.; Columbia Valley, at Donald, B.C.; in ditches at Somenos, Vancouver Island. (*Macoun.*) Wet places, Agassiz Station, B.C. (*Fletcher.*)

(2535.) **C. alopecoidea,** Tuckerman, Enum. Meth., 18, (1843.)

C. alopecoidea, var. *sparsi-spicata,* Dew. Sill. Journ. VIII., 350, (1849.)
C. cephalophora, var. *maxima,* Dew. Sill. Journ. XLIII., 92, (1842.)

Very rare in Canada. Only collected hitherto in Manitoba. Turtle Mountain, Man., near lat. 49°, 1874. (*Burgess. Dawson.*)

(2536.) **C. sparganioides,** Muhl. Cat. (1805); Pursh, Fl. I., 36.

C. cephalophora, β. Torr. Cyp. 389, (1836.)
C. sparganioides, var. *minor,* Boott. Ill., No. 284.
C. muricata, var. *cephaloidea,* Dew. Sill. Journ. XI., 308, (1326.)

Grassy thickets, and by fences; chiefly in western Ontario. Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Miriwin's woods, and in fields, not common, Prescott, Ont. (*Billings.*) Open grassy woods and along fences; scarce at Belleville, Ont.; abundant in rich low woods, near Amherstburgh, Lake Erie, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Low meadows, London, Ont. (*Burgess. Millman.*)

(2537.) **C. macrocephala,** Willd.; Hook., Fl. II., 215, (1840.)

C. Menziesiana, Smith, Herb.

Growing in sand on Savary Island, Gulf of Georgia, B.C., 1885. (*Dawson.*) This is a most remarkable species, and has a very striking

appearance. Like most plants growing in sea-sand, it is short and stout. (*Macoun.*) North West coast. (*Hooker, Fl.*)

(2538.) **C. cephaloidea,** Boott, Ill. 123, (1858.)

Sandy woodland near London, Ont. (*Burgess. Millman.*)

(2539.) **C. cephalophora,** Muhl. (1805); Hook., Fl. II., 212.

Not uncommon in Ontario, in grassy thickets from Belleville westward. (*Macoun.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Vicinity of Hamilton, Ont. (*Logie.*) Thickets, near London, Ont. (*Burgess. Millman.*)

Var. **angustifolia,** Boott. Ill., 123, (1858.)

C. Leavenworthii, Dew. Sill. Journ. II., 246, (1846.)

In abundance in rocky and grassy thickets on Pelée Island, Lake Erie. (*Macoun.*)

(2540.) **C. Muhlenbergii,** Schk. (1806); Pursh, Fl. I., 36; Hook., Fl. II., 212.

Rather uncommon in grassy thickets and open woods. On a ridge near Marmora Village, Hastings Co.; Pelée Point, Lake Erie, and Port Dover Junction, near St. Thomas, Ont. (*Macoun.*) Meadows near London, Ont. (*Burgess. Millman.*) Hudson Bay. (*Torrey.*)

(2541.) **C. Brongniartii,** Kunth. var. **densa,** Bailey, Carex, Syn., No. 241, (1886.)

C. anthericoides, Presl.; Hook., Fl. II., 211. (?)
C. paniculata, W. Boott, Bot. Calif. II., 232, (1880.)

Nootka Sound, Vancouver Island. (*Hooker, Fl.*)

(2542.) **C. leiorhyncha,** C. A. Meyer, Cyp. Nov. (1830.)

Along the Pacific coast, probably from Oregon northward. (*Bailey.*) Specimens referred here were gathered at Yale, British Columbia, May, 1875. (*Macoun.*)

(2543.) **C. muricata,** Linn., var. **gracilis,** Boott, Ill., 193, (1858.)

C. Hookeriana, Dew. Sill. Journ. XXIX., 248, (1836); Hook., Fl. II., 212.

Abundant in many parts of the prairie region, but particularly in the Qu'Appelle Valley and at Moose Jaw, Assiniboia. (*Macoun.*) Carleton House, on the Saskatchewan. (*Hooker, Fl.*)

Var. **conflxa,** Bailey, Coulter's, Bot. Gaz. X., 203, (1885.)

C. Hoodii, W. Boott, Bot. Calif. II., 232, in part, (1880.)
C. muricata, Hook., Fl. II., 212, (?) (1840.)

Oregon, and northward into British America. (*Bailey.*) North West coast. (*Hooker, Fl.*) We have seen no specimens.

(2544.) **C. rosea,** Schk. (1806); Pursh, Fl. I., 36; Hook., Fl. II., 212.

Abundant in thickets in many parts of the eastern provinces and Ontario. New Harbor, Newfoundland. (*Rev. A. Waghorne.*) North Mountain, Annapolis, N.S. (*Macoun.*) Petitcodiac, and Portage, N.B. (*Fowler, Cat.*) Nepisiquit River, N.B. (*Hay.*) Vicinity of Calumet, Q. (*Ami.*) Stewart's Bush, Ottawa. (*Fletcher, Fl. Ott.*) Common in woods at Prescott, Ont. (*Billings.*) Moist woods and along the margins of fences and in new meadows throughout central Ontario, and westward to Lake Huron, at Owen Sound. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Thickets at London, Ont.; Emerson, and Turtle Mountain, Man. (*Burgess.*) In a swamp, Red River Valley, Man. (*Dawson.*) Lake Winnipeg. (*Bourgeau.*)

Var. **radiata,** Dew. Sill. Journ. X., 276, (1826.)

C. neglecta, Tuckerman, Enum. Meth., 19, (1843.)
C. rosea, var. *minor*, Boott. Ill., 81, (1858.)

Open grassy woods, at Picton, Prince Edward Co.; damp woods at Belleville, Hastings Co., Ont.; at Niagara Falls, in oak woods, and in woods at Amherstburgh, Lake Erie. (*Macoun.*)

Var. **retroflexa,** Torrey, Cyp. 383, (1836.)

C. retroflexa, Muhl.; Pursh, Fl. I., 35; Hook., Fl. II., 212; Macoun, Cat. No. 2050.

British America. (*Torrey.*) Moist woods, William Anderson's Farm, Ameliasburgh, Prince Edward Co., Ont. (*Macoun.*)

(2545.) **C. Hoodii,** Boott, Hook., Fl. II., 211, (1840.)

C. congesta, C. A. Meyer, *vide*, Boott.

In grassy thickets, Cypress Hills, Alberta. (*J. M. Macoun.*) Nachacco River, and McLeod's Lake, northern British Columbia, lat. 55°. (*Macoun.*)

(2546.) **C. incurva,** Lightf. (1777); Hook., Fl. II., 211.

On the summit of the mountain which rises north from Kicking Horse Lake, Rocky Mountains. (*Macoun.*) Cumberland House, Bear Lake, and Rocky Mountains. (*Hooker, Fl.*) Valley of the Mackenzie River. (*Richardson.*) Greenland. (*Lange.*)

(2547.) **C. stenophylla,** Vahl. (1803); Hook., Fl. II., 211.

C. duriuscula, C. A. Meyer, Cyp. Nov., 214, (1831.)

Not uncommon throughout the prairie region, from Portage la Prairie westward to Kananaskis Station in the Rocky Mountains. (*Macoun.*) Prairie west of Turtle Mountain, Man. (*Dawson.*) Carleton House, on the Saskatchewan; Rocky Mountains. (*Hooker, Fl.*)

(2548.) **C. chordorhiza,** Ehrh.; Hook., Fl. II., 211.

C. fulvicoma. Dew. Sill. Journ. XXIX., 249, (1836); Hook., Fl. II., 211.

Peat bogs and marshes, generally northward. Shippegan, N.B. (*Hay.*) Lakeville, Carleton Co., N.B. (*Brittain.*) Salt Lake, and Ellis Bay, Anticosti; marsh at the mouth of the Kaministiqua, on the left bank. (*Macoun.*) Marshes, London, Ont. (*Burgess. Millman.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Peat marsh, Telegraph Trail, lat. 54°, B.C. (*Macoun.*) Hudson Bay to Cumberland House; Lake Winnipeg, Norway House and Cumberland House, Saskatchewan River. (*Hooker, Fl.*)

† † *Spikelets male at bottom.*

(2549.) **C. festiva,** Dew. Sill. Journ. XXIX., 246, (1836); Hook., Fl. II., 215.

C. oreades, C. A. Meyer, Bull. Acad. Brux. IX., 248, (1842).

Very abundant from the prairie region westward to the Pacific coast, in thickets and meadows. White Mud River, 49th parallel: Michel Creek, Crow Nest Pass, Rocky Mountains. (*Dawson.*) In coulées and willow clumps, Cypress and Eagle Hills, and northward to Lesser Slave Lake; common in damp meadows and thickets, from Morley through the Rocky and Selkirk mountains, and northward in British Columbia; very abundant in meadows and thickets throughout Vancouver Island. (*Macoun.*) Cumberland House to Bear Lake; Rocky Mountains. (*Hooker, Fl.*) Fraser River, near Yale, B.C. (*Fletcher.*) Lake Lindeman, lat. 59°, B.C. (*Dawson.*) Shuswap Lake, B.C. (*Prof. Fowler.*) Greenland. (*Lange.*)

Var. **Haydeniana,** W. Boott, Bot. Calif. II., 234, (1880.)

C. Haydeniana, Olney, Bot. King's Exp. V., 364, (1871.)

On the summits of the higher Rocky Mountains, from Castle Mt. to Kicking Horse Lake. (*Macoun.*)

Var. **gracilis,** Olney, Proced. Am. Acad., 407, (1872.)

On the beds of "snow slides" at the summit of the Selkirk Moun-

tains, and at Golden City, in the Columbia Valley, B.C.; abundant in meadows and thickets in many parts of Vancouver Island, especially at Victoria and Nanaimo. (*Macoun.*)

(2550.) **C. athrostachya,** Olney, Proced. Am. Acad. VII., 393, (1871.)

Grassy thickets and meadows, growing in large clumps. Abundant in the Cypress and Bear Hills, Alberta; in British Columbia, at McLeod's Lake, lat. 55°; quite common in meadows and thickets in the neighborhood of Victoria, and Nanaimo, Vancouver Island. (*Macoun.*)

(2551.) **C. sychnocephala,** Carey, Sill. Journ. IV., 24, (1847.)

C. cyperoides, Dew. Sill. Journ. III., 171, (1847.)

Quite common in many localities in Ontario and the prairie region. Always found growing in tufts in ditches and wet, sandy places. Ditches along the Canadian Pacific railway, near Ottawa. (*Fletcher, Fl. Ott.*) Near the Freight House, Prescott Junction, Ont. (*Billings.*) Millpond, Madoc Village; in a meadow along the Moira River, Marmora township, and along Crow River, near Marmora village, all in Hastings Co.; abundant along the Port Hope and Lindsay Railroad, three miles south of Lindsay; border of a swamp five miles from Owen Sound, on the road to Southampton, Ont.; abundant on the margin of ponds, from Manitoba westward to near Battleford, on Battle River. (*Macoun.*) Quite common in gravel and wet sand, on the west shore of Lake Winnipeg. (*J. M. Macoun.*)

* * * *Spikelets distinct or nearly so.*

† *Spikelets male at top.*

(2552.) **C. tenella,** Schkuhr, Riedgr. 104, (1801.)

C. disperma, Dew. Sill. Journ. VIII., 266, (1824); Hook., Fl. II., 211.
C. gracilis, Gray, Sill. Journ. IV., 22, (1847.)

Abundant in cedar swamps and wet woods generally, from the Atlantic to the Pacific. Newfoundland. (*Cormack.*) Truro, and sphagnum swamp at the head of the North West Arm, Halifax, N.S. (*Macoun & Burgess.*) Magdalen Islands. (*J. Richardson.*) Near Pictou, N.S. (*McKay.*) Damp shady woods, Bass River, N.B. (*Fowler, Cat.*) Tobique River, N.B. (*Hay.*) Bogs at Salt Lake and Jupiter River, Anticosti. (*Macoun.*) Island of Orleans, Q. (*St. Cyr.*) Madeline River, Gaspé, Q. (*Porter.*) Recollet Swamp, Montreal. (*C. F. McCrea.*) Abundant at Sugar Bush Lake, Montcalm Co., Q. (*D'Urban.*) Dow's Swamp and other places at Ottawa. (*Fletcher, Fl. Ott.*) Marshy

swamp near Prescott Junction, Ont. (*Billings.*) Kemptville, Ont. (*Porter.*) Cedar swamps and borders of ponds throughout central Ontario, and to Lake Superior and all the northern forest region. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Swampy ground, Komoka, Ont. (*Millman.*) Swamps at London, Ont.; and Lake of the Woods. (*Burgess.*) York Factory, Hudson Bay; Oba Lake, Ont. (*R. Bell.*) Eastern summit of North Kootanie Pass, Rocky Mountains. (*Dawson.*) In swamps in northern Manitoba, and north-westward to Peace River, lat. 56°; common in swamps at Morley and westward through the Rocky Mountains to Donald in the Columbia Valley; northward through British Columbia to McLeod's Lake, lat. 55°; rare on Vancouver Island, only noted on Mount Mark, near Qualicum. (*Macoun.*) Common in British America to the Rocky Mountains. (*Hooker, Fl.*)

† † *Spikelets male at bottom.*

(2553.) **C. trisperma,** Dew. Sill. Journ. IX., 63, (1825); Hook., Fl. II., 213.

Abundant in bogs eastward from Lake Superior. Sphagnum swamp, Truro, N.S. (*Macoun.*) Swamps and woods, Bass River; Carleton Co., N.B. (*Fowler, Cat.*) Tobique Lakes, N.B. (*Brittain.*) Swamps, Cape Rosier, and Grand Vallée, Gaspé coast; Mount Albert, Shichshock Mountains, Q. (*Macoun.*) Ouatchechou, and west point of Mingan River, Q. (*St. Cyr.*) Swamps, vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Common in swamps at Prescott, Ont. (*Billings.*) Kemptville, Ont. (*Porter.*) Cedar swamps throughout central Ontario, and westward to the country around Lake Superior and Lake Nipigon. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Swamps at London, Ont. (*Burgess. Millman.*) Cumberland House and Rocky Mountains. (*Hooker, Fl.*)

(2554.) **C. remota,** Linn. Sp. Pl., Ed. II., 1383, (1757.)

Resembles tall and lax forms of *C. canescens*, but differs in the much scattered spikes. Newfoundland, according to Gay, and Sitka, according Flora Rossica. (*Bailey, Carex, Syn.* 145.) Sitka. (*Rothr. Alask.*)

(2555.) **C. tenuiflora,** Wahl. (1803); Hook., Fl. II., 214.

Swamps and peaty meadows, not common. Tobique River; Potitcodiac, N.B. (*Fowler, Cat.*) Mer Bleue, near Ottawa. (*Fletcher, Fl. Ott.*) Swamp, five miles west of Belleville, and in a cedar swamp beyond the Jordan, Hastings Road, Ont.; Flat Rock Portage, Lake Nipigon; and in peat bogs at Red Rock, Port Arthur, and Fort William, west of Lake Superior, and at Otter Head, on the east coast; in wet woods,

Swan Lake House, Man. (*Macoun.*) Borders of a peat bog near London, Ont. (*Burgess. Millman.*) Canada to Norway House, Lake Winnipeg. (*Hooker, Fl.*)

(2556.) **C. canescens,** Linn. Sp. II., 974, (1757.)

C. curta, Good. (1792); Hook., Fl. II., 214; Pursh, Fl. I., 37; Michx., Fl. I., (1803.)

C. vitilis, var. *pallida,* Olney, Bot. King's Exp. V., 364, (1871.)

Very common under various forms in bogs and swamps from the Atlantic to the Pacific. Brigus, Newfoundland. (*R. Bell.*) Coast of Labrador. (*McGill Coll. Herb.*) Common in bogs at Truro, Windsor, and Halifax, N.S. (*Macoun. & Burgess.*) Magdalen Islands. (*J. Richardson.*) Common at Bass River; Lily Lake, N.B. (*Fowler, Cat.*) Chipman, N. B. (*Wetmore.*) Ouatchechou, Q. (*St. Cyr.*) Tadousac, Q. (*A. T. Drummond.*) Swamps, vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Common in swamps at Prescott, Ont. (*Billings.*) Marshy spots in meadows, along margins of ponds, and in peat bogs, throughout central and northern Ontario to Lake Nipigon, and west of Lake Superior. (*Macoun.*) Swamps, London, Ont. (*Burgess.*) Wet places, Emerson, Man. (*Millman.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) North end of Lake Winnipeg. (*R. Bell.*) Apparently rare in the Rocky Mountains, only observed at Kicking Horse Lake, and at Six Mile Creek, in the Selkirk Mountains; bogs northward up the Fraser River, B.C. (*Macoun.*) Ilgacho Brook, B. C. (*Dawson.*) On the borders of ponds and lakes throughout Vancouver Island, though far from common. (*Macoun.*) Arctic sea-coast and Methy Portage. (*Richardson.*) Common in British America. (*Hooker, Fl.*) Sitka. (*Rothr. Alask.*) Greenland. (*Lange.*)

A curious form, with the spikes gathered in a glomerate almost triangular head, was collected at Langford Lake, Vancouver Island, in June, 1887.

Var. **vulgaris,** Bailey, ined. (1888.)

C. canescens, var. *alpicola,* American authors, in part.

Differs from the species in its more slender culm, and laxer habit, its small spikes and usually smaller and spreading perigynia. The commonest form of *C. canescens.* Abundant in swamps and wet meadows. Common through the Northern States, east of the Mississippi and adjacent Canada. (*Bailey.*) Common at Bass River, Carleton Co., and rather common at Salmon River, N.B. (*Fowler, Cat.*) Bogs at Salt Lake and Ellis Bay, Anticosti. (*Macoun.*) St. Charles Island, Mingan, and Ouatchechou, Q. (*St. Cyr.*) Bogs, vicinity of Ottawa. (*Fletcher. Fl. Ott.*) Cedar swamps, Dummer, Peterboro Co.; north-east coast of

Lake Superior, and in swamps at Port Arthur, Thunder Bay; Nipigon River, Lake Superior. (*Macoun.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Mossy bog, London, Ont. (*Burgess. Millman.*) Abundant in marshes at Swan Lake House, and around the Porcupine Mountain, Man.; Beaver Creek, in the Selkirk Mountains, B.C.; swamps near McLeod's Lake, northern British Columbia. (*Macoun.*) Vancouver city, Burrard Inlet, B.C. (*Prof. Fowler.*) It is probable that some of the above references belong to the next variety, as we have not seen the specimens.

Var. **alpicola,** Wahl.

C. sphærostycha, Dew. Sill. Journ. XLIX., 44, (1845.)
C. canescens, var. *vitilis*, Macoun Cat. No. 1968, in part, (1878.)

Smaller than the species (seldom over a foot high), the culm stiff in most alpine forms, more or less slender in the subalpine forms; spikes small and globular, or nearly so, well defined brown or tawny. Alpine or subalpine, across the continent. (*Bailey.*) Marshes at Truro, and Halifax, N.S. (*Burgess & Macoun.*) Along the Gaspé coast, and up the Ste. Anne des Monts River, and on Mount Albert, Shickshock Mountains, Q.; Partridge Lake, North Hastings, and in a swamp near Bellville, Ont. (*Macoun.*)

(2557.) **C. arcta,** Boott, Ill., 155, t. 497.

C. canescens, var. *polystachya*, Boott.; Rich. Journ. II., 344.
C. Kunzei, Olney, Proced. Am. Acad., 407, (1872.)

Swamps and ditches; extending from New Brunswick westward to Vancouver Island. Petitcodiac, Hampton, Portage, and Moss Glen, King's Co., N.B. (*Brittain.*) Gatineau Point, near Hull, Q. (*Fletcher, Fl. Ott.*) Wet shore of Lake Champlain, Q. (*Pringle.*) Abundant on Long Portage, Nipigon River; also on a Portage near Rainy Lake, Dawson route; very abundant in ditches and wet meadows at Victoria, and Nanaimo, Vancouver Island. (*Macoun*) Cedar Hill, near Victoria, Vancouver Island. (*Fletcher.*) Burrard Inlet, at Vancouver city, B.C. (*Prof. Fowler.*) Rainy Lake and Lake of the Woods. (*Richardson.*)

(2558.) **C. Deweyana,** Schweinitz, An. Tab. (1823); Hook., Fl. II., 213.

C. remota, Rich. App. Frankl. Exp. (1823); Pursh, Fl. I., 37.

In dry grassy thickets, abundant from the Atlantic westward. Point Pleasant, near Halifax; and Windsor, N.S. (*Macoun.*) Bass River; Petitcodiac; Gaspereau River, and Salmon River; Aroostook Falls, N.B. (*Fowler, Cat.*) Tobique River, N.B. (*Hay.*) Thickets along the Jupiter River, Anticosti; River Ste. Anne des Monts, Gaspé

Q. (*Macoun.*) Madeline River, Gaspé, Q. (*Porter.*) Montreal Mountain. (*C. F. McCrea.*) Meadows near Templeton, Q.; Port Colborne, Ont. (*McGill Coll. Herb.*) Kemptville, Ont. (*Porter.*) In all woods at Ottawa. (*Fletcher, Fl. Ott.*) Common in woods at Prescott, Ont. (*Billings.*) Woods at Carleton Place, Carleton Co., and westward throughout Ontario to the west side of Lake Superior; Lake Nipigon. (*Macoun*) In low thickets, London, Ont. (*Burgess. Millman.*) Along Lake Superior, Rainy Lake, and Lake of the Woods. (*Richardson.*) Punk Island, Lake Winnipeg. (*J. M. Macoun.*) Telegraph Trail, near Stewart's Lake, B.C. (*Macoun.*) Canada to Norway House, and Rocky Mountains. (*Hooker, Fl.*)

Var. **Bolanderi,** W. Boott, Bot. Calif. II., 236, (1880.)

C. Bolanderi, Olney, Proced. Am. Acad. VII., 393, (1868.)

Rich and damp grassy woods in numerous places on the Pacific coast. Fraser River Valley, at Yale, and Boston Bar, B.C.; abundant in thickets at Oak Bay, Goldstream, Shawnagin Lake, Cowichan River, Nanaimo, Alberni, and many other localities, Vancouver Island. (*Macoun.*) Mount Finlayson, near Victoria, Vancouver Island. (*Fletcher.*) Shores of Burrard Inlet, at Vancouver city, B.C. (*Prof. Fowler.*)

Var. **sparsiflora,** Bailey, ined.

C. Bolanderi, var. *sparsiflora*, Olney, Proced. Am. Acad., 407, (1872.)

Plant laxer in habit than the type; leaves narrow, spikes much smaller; perigynium half as large, more or less excurved. The most reduced form of the species. (*Bailey.*) Swamps near the summit of Mount Mark, near Qualicum, Vancouver Island. This is quite a distinct form and closely related to the var. *Bolanderi*. Collected at 2,500 feet altitude, 1887. (*Macoun.*)

(2559.) **C. Norvegica,** Schk. (1801); Dew. Sill. Journ. XXXII., 38, (1861.)

Abundant in numerous salt marshes at Truro, N.S.; Salt Lake, and Ellis Bay, Anticosti, and from Cape Rosier to Matane, along the Gaspé coast of the St. Lawrence. (*Macoun.*) Salt marsh, Shediac, N.B. (*Brittain.*) Whale Cove, Grand Manan, and Back Bay, Charlotte Co., N.B. (*Hay.*) Salt marshes, Lower St. Lawrence. (*Pringle.*) Sitka, and Kotzebue Sound. (*Rothr. Alask.*)

(2560.) **C. brizoides,** Linn., var. **nemoralis,** Wimmer, Fl. Siles. 401.

Arctic America, according to Bœckeler. (*Bailey, Carex, Syn.* 146.)

(2561.) **C. echinata,** Murray, Prodr. Gœtt. 76, (1770.)

C. stellulata, Good., Linn. Trans. II., 144, (1792); Hook., Fl. II., 214; Macoun, Cat. No. 2066.
C. stellulata, var. *sterilis,* Torr. Bot. N. York, II., 380, (1843.)
C. sterilis, W. Boott, Bot. Calif. II., 236, (1880.)

Culms stiff; spikes large, all contiguous or nearly so; perigynium large, much attenuated above. (*Bailey.*) Apparently commonest eastward. Only our own specimens and what have been named *C. sterilis,* are referred to the species. All others go with the second variety. Topsail, Newfoundland. (*R. Bell.*) Petticodiac, N.B. (*Brittain.*) Swamps at Truro, and Yarmouth, N.S. (*Macoun.*) Glenelg, Guysboro, N.S. (*Faribault.*) St. Charles Islands, Mingan, and Tadousac, Q. (*St. Cyr.*) Rivière de Brig, Anticosti; Gaspé Basin, and L'anse à Valon, Gaspé, Q.; Livingston Point, Lake Nipigon, and Lake Maria, Nipigon River, Ont. (*Macoun.*) Swampy river flat, London, Ont. (*Burgess, Millman.*) Not uncommon in marshes at Morley and westward through the Rocky and Selkirk mountains, B.C.; borders of marshes at Goldstream, Alberni, and Mount Mark, near Qualicum, Vancouver Island. (*Macoun.*)

Var. **conferta,** Bailey, Carex, Cat. (1884.)

C. stellulata, var. *conferta,* Chapm. Flora, 534, (1860.)

Bogs at the head of the North West Arm, near Halifax, N.S. (*Macoun & Burgess.*) Along the coast from Newfoundland southward to Florida. (*La Pylaie.*) Differs from the species in the oblong densely flowered, and more spreading spikes, and recurved perigynium. (*Bailey.*)

Var. **microstachys,** Boeckeler, Linnæa. XXXIX., 125, (1875.)

C. scirpoides, Schkuhr, Riedgr. Nachtr. 19, (1805); Pursh, Fl. I., 37.
C. sterilis, Willd.; Pursh, Fl. I., 34, (1814.)
C. sterilis, vars. β. & γ., Torr. Cyp., 392, (1836.)
C. stellulata, vars. *scirpoides* & *angustata,* Gray, Man. Ed. V., 579, (1868); Macoun, Cat. No. 2066 vars.
C. echinata var. *angustata,* Bailey, Carex, Cat. (1884.)

More slender; spikes small and more scattered; perigynium smaller and less conspicuously beaked. (*Bailey.*) Very abundant in swamps and marshes throughout the eastern provinces. Halifax, N.S. (*Sommers, Cat.*) Petitcodiac; common in Kent Co., at Bass River; also Carleton Co., N.B. (*Fowler, Cat.*) Common in swamps at Truro, N.S.; and along the Ste. Anne des Monts River, Gaspé, Q. (*Macoun.*) Mingan, and Pentecost rivers, Q. (*St. Cyr.*) Bogs and marshes, common near Ottawa. (*Fletcher, Fl. Ott.*) Very common around Pres-

cott, Ont. (*Billings.*) Extremely common throughout central Ontario and westward in the forest region to the Rocky Mountains. (*Macoun.*) Port Colborne, Ont. (*McGill Coll. Herb.*) Kemptville, Ont. (*Porter.*) Vicinity of Hamilton, Ont. (*Logie.*) Boggy places at London, Ont. (*Burgess. Millman.*) North shore of Lake Superior. (*Agassiz.*) Lake Mistassini, N.E.T.; also Souris River, and at Medicine Hat, Alberta. (*J. M. Macoun.*) From Brandon, Man., westward to the Rocky Mountains, and through them to British Columbia, and to Vancouver Island, where it is common. (*Macoun.*) Common in British America, to the Rocky Mountains. (*Hooker, Fl.*) Sitka, and Ounalashka. (*Rothr. Alask.*)

(2562.) **C. heleonastes,** Ehrh.; Linn., fil. Suppl., 414; Hook., Fl. II., 214.

C. Carltonia, Dew. Sill. Journ. XXVII., 238, (1835.)
C. marina, Dew. Sill. Journ. XXIX., 247, (1836); Hook., Fl. II., 214.

A rare and alpine or arctic species, seldom detected but easily known by its remarkably rigid appearance. In a boggy meadow on the border of a small lake, three miles south of Kicking Horse Lake, Rocky Mountains. (*Macoun.*) Hudson Bay to Cumberland House, on the Saskatchewan; Norway House, at foot of Lake Winnipeg. (*Hooker, Fl.*)

(2563.) **C. glareosa,** Wahl. Köngl. Acad. Handl. XXIV., 146, (1802); Hook., Fl. II., 214.

This species seems confined to the sea-coast, or mountains near the sea. Cape Chudleigh, and the Eskimo village of Hyla, Hudson Strait (*R. Bell.*) Ouatchechou, Q. (*St. Cyr.*) Grand Etang, Gaspé coast, and summit of Mount Albert, Shickshock Mountains, Gaspé, Q. (*Macoun. Porter.*) Shumagin Islands, Alaska. (*Harrington.*) Arctic sea-coast. (*Richardson.*) Greenland. (*Lange.*)

(2564.) **C. lagopina,** Wahl. Köngl. Acad. Handl. XXIV., 145, (1802.)

C. leporina, Willd. (1805); Hook., Fl. II., 214.

This is a boreal or mountain species seldom detected. Maritime rocks, Labrador. (*Allen.*) On rocks along the sea, near Point Seche, Gaspé coast, Q.; Stewart's Lake Mountain, British Columbia, lat. 55°. (*Macoun.*) Rocky Mountains. (*Hooker, Fl.*) South Kootanie Pass, Rocky Mountains. (*Dawson.*) On the higher Rocky and Selkirk mountains, from Castle Mountain to Roger's Pass, and the great glacier. (*Macoun.*) Greenland. (*Lange.*) Kotzebue Sound. (*Rothr. Alask.*)

(2565.) **C. Liddoni,** Boott, Hook., Fl. II., 214, (1840.)

This species is distinguished by its erect and thick rusty head, and very large and comparitively firm brown perigynium. (*Bailey.*) Taking the above view of the species, Prof. Bailey refers our specimens to *C. pratensis*, Drej., yet Mr. Arthur Bennett, of Croydon, England, assures me that our specimens are identical with those in Boott's herbarium. It is certain that Boott's figure in Hooker's Flora Boreali Americana, is different in appearance from our specimens, and it is probable that Boott has figured a young plant of one species and retains a well grown one of another under the same name in his herbarium. Owing to the place of growth, and the absence of all boreal surroundings, I am of opinion that our prairie specimens are not *C. pratensis*, whatever else they may be, but place them there because I can do no better. Fine specimens with stout culms and well developed spikelets forming a fairly compact head, were gathered at Cedar Hill, Vancouver Island. These are referred to *C. Liddoni* by both Lange and Bailey. (*Macoun.*)

(2566.) **C. pratensis,** Drejer, Rev. Crit. Car. Por., 24, (1841.)

Specimens that we refer here were collected on sand on the east coast of Lake Superior, above Michipicotin, in the summer of 1869, and named *C. Liddoni* by Prof. Dewey, of Rochester. From the remarks of Prof. Bailey, I am inclined to believe that they belong here. The spikelets are very much narrowed at the base, and in some instances the lower ones become compound. Specimens of this form can be seen in Prof. Dewey's herbarium. (*Macoun.*) Pic River, Lake Superior (*Loring.*) Middle Bay, Labrador. (*Allen.*) Greenland. (*Lange.*) Moose Mountain Creek and westward on the Souris Plain, Assiniboia. (*J. M. Macoun.*) Very abundant on the open prairie, and in thickets throughout Manitoba and westward to the Rocky Mountains. I have often seen many acres covered with the tufts of this species, and admired the silvery hue and nodding habit of the spikes. Rather common in the lower valleys of the Rocky Mountains and in the Columbia Valley, at Donald, B.C.; along the Nachacco River, British Columbia, and not uncommon at Goldstream, Cedar Hill, and throughout southern Vancouver Island. (*Macoun.*)

Since the notes on *C. Liddoni* and *C. pratensis* were written, I have had a report from Prof. John Lange, author of "Conspectus Floræ Grœnlandicæ." He says that the specimens from Michipicotin, Lake Superior, and the Nachacco River, B.C., are the same and seem to be intermediate between *C. scoparia*, Schk., and *C. pratensis*, Drejer. The specimens from the prairie are the same as those of Coulter's Manual, referred to *C. pratensis*, Drejer., by Bailey. The Vancouver Island

specimens he does not know, but thinks they are different from both *C. scoparia* and *C. pratensis*. Of these he says: "Mihi ignota; forsan forma *C. scoparia;* differt a *C. pratensi*, foliis brevioribus magisque scabris, spicis magis approximatis, squamis atrofuscis, &c."—Feb. 16, 1888, Joh. Lange.

From the above it is evident that these forms are included in the specimens referred to *C. pratensis*, but we must wait for more light before finally deciding.

(2567.) **C. adusta,** Boott, Hook., Fl. II., 215, (1840.)
C. argyrantha, Tuckerman in Herb., (1859.)
C. albolutescens, Olney, Exsicc. I., 8, (1870.)
C. albolutescens, var. *argyrantha*, Olney, Exsicc. I., 9, (1870.)
C. albolutescens, var. *sparsiflora*, Olney, Exsicc. V., 11, (1870.)
C. adusta, var. *argyrantha*, Bailey, Carex, Cat. (1884.)

Richibucto, Kent Co., and other localities, N.B. (*Fowler, Cat.*) Harbor Island, Mingan, Q. (*St. Cyr.*) Woods near Niagara Falls, Ont.; very abundant in woods through which fire has run, everywhere around Lake Superior, and Lake Nipigon and westward to Rainy Lake. (*Macoun.*) Port Arthur, Lake Superior; and Emerson, Man. (*Burgess.*) On grassy slopes in the Columbia and Beaver Creek valleys, Selkirk Mountains, B. C. (*Macoun.*) Methy Portage, lat. 57°. (*Richardson.*) Common in British America to the Rocky Mountains. (*Hooker, Fl.*)

(2568.) **C. pinguis,** Bailey, Bull. Bot. Minnesota, (1886.)
C. adusta, var. *glomerata*, Bailey, Carex, Cat. (1884.)
C. albolutescens, var. *glomerata*, Olney, Exsicc. V., 10, (1870.)

This species differs from *C. adusta* in its stiff culm; dense broad head, of which some spikes, or at least the lowest one, are subtended by a short and very broad-based, nerved and pointed bract; perigynium very plump, and nearly filled by the achenium, flat or convex and nerveless, or very nearly so, on the inner face, wingless or slightly margined above. It grows in dense tufts in dry soil. (*Bailey.*) Richibucto, Kent Co.; Nepisiquit Lake and Lower Tobique River, N.B. (*Fowler, Cat.*) River Ste. Marguerite, Q. (*Pringle.*) Burnt woods, Tudor, Hastings Co.; woods, Elliott's Falls, Gull River, Victoria Co.; abundant at Livingstone Point, Lake Nipigon; Rainy River, near the Lake of the Woods; and in the Touchwood Hills, Assiniboia. (*Macoun.*)

(2569.) **C. arida,** Schweinitz & Torrey, Car. Mon. 312, (1824); Hook., Fl. II., 214.
C. scoparia, var. *Muskingumensis*, Tuckerman, Enum. Meth. 17, (1843.)
C. Muskingumensis, Schweinitz, An. Tab. (1823.)

Apparently rare in Canada. Wet thickets on the prairie, between Point du Chien and Winnipeg, Man. (*Macoun.*)

(2570.) **C. tribuloides,** Wahl. Köngl. Acad. Handl. XXIV., 145, (1802.)

C. lagopodioides, Schk. (1806); Hook., Fl. II., 214; Pursh, Fl. I., 37.
C. scoparia, var. *lagopodioides*, Torr. Cyp. 394, (1836.)
C. lagopodioides var. *composita*, Olney, Exsicc. II., 10, (1870.)

Not uncommon in thickets, and near swamps. Flowering very late in the season and long after all forms of *C. straminea*. Bass River, Kent Co.; not rare at Salmon River, N.B. (*Fowler, Cat.*) Campbellton, N.B. (*Chalmers.*) Muddy soil, Island of Orleans, Q. (*St. Cyr.*) Not rare at Ottawa. (*Fletcher, Fl. Ott.*) Common in thickets at Prescott, Ont. (*Billings.*) Vicinity of Hamilton, Ont. (*Logie.*) Abundant in central Ontario, and extending westward to Point Meuron, west of Lake Superior. (*Macoun.*) Cumberland House, Saskatchewan River. (*Hooker, Fl.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*)

Var. **cristata,** Bailey, Carex, Syn. 148, (1886.)

C. cristata, Schweintz, An. Tab. (1823.)
C. straminea, var. *cristata*, Tuckerman, Enum. Meth. 18, (1843.)
C. lagopodioides, var. *cristata*, Carey, Gray, Man. Ed. I., (1848.)
C. mirabilis, Dew. Sill. Journ. XXX., 63, (1836.)
C. Bebbii, Olney, Exsicc. II., 12, (1870.)

Much more abundant than the species. Damp woods, Kingston, and Windsor, N.S. (*Macoun.*) Newfoundland. (*Reeks.*) Tobique River, N.B. (*Fowler, Cat.*) Canoos River, N.B. (*Vroom.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Abundant throughout central Ontario, extending south-westward to Lake Erie, at Pelée Point and north-westerly to Flat Rock Portage, Nipigon River. (*Macoun.*) Michipicotin River, Ont. (*R. Bell.*) Low, wet meadows, near London, Ont. (*Burgess. Milman.*) Vicinity of Hamilton, Ont. (*Logie.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Lake Winnipeg to Cumberland House. (*Hooker, Fl.*)

Var. **reducta,** Bailey, Carex, Syn. 148, (1886.)

C. scoparia, var. *moniliformis*, Tuckerman, Enum. Meth. 18, (1843.)
C. lagopodioides, var. *moniliformis*, Olney, Exsicc. II., 8, (1870).

Bass River, Kent Co., N.B. (*Fowler, Cat.*)

We distinguish the three varieties as follows:—

(1.) Spikelets numerous, generally in glomerate heads; perigynia *not* recurved at the tips at maturity.

(2.) Spikelets fewer, more scattered, and the perigynia with recurved tips at maturity.

(3.) Spikelets small, very much scattered (moniliform), perigynia spreading, or recurved at the tip.

(2571.) **C. scoparia,** Schk. (1801); Hook., Fl. II., 214; Pursh, Fl. I., 37.

C. scoparia var. *minor,* Boott. Ill. 116.
C. lagopodioides, var. *scoparia,* Bœckeler, Linnæa XXXIX., 114, (1875.)
C. leporina, Michx., Fl. I., 170, (1803.)

Abundant in meadows and borders of woods. Newfoundland. (*Reeks.*) Truro, Windsor, Kingston, and Annapolis, N.S. (*Macoun.*) Meadows, Glenelg, Guysboro Co., N.S. (*Faribault.*) Near North Sydney, Cape Breton. (*Burgess.*) Pictou Co., N.S. (*McKay.*) Very common at Bass River, Kent Co.; Campbellton, Restigouche Co., N.B. (*Fowler, Cat.*) Nepisquit Lakes, N.B. (*Brittain.*) Water Cove, Saguenay River, and St. Ambrose, Q. (*St. Cyr.*) Abundant on sandy banks of the Rivière Rouge, Argenteuil Co., Q. (*D'Urban.*) Common around Ottawa. (*Fletcher, Fl. Ott.*) Abundant in meadows at Prescott, Ont. (*Billings.*) Meadows near Kemptville, Ont. (*Porter.*) Very common in low wet meadows, growing in large tufts, throughout central Ontario, and extending westward to the west side of Lake Superior, and Lake Nipigon. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Low meadows at London, Ont. (*Burgess, Millman.*) North shore of Lake Superior. (*Agassiz.*) Lake Mistassini, N.E.T.; Muskeg Creek, and Washoe Bay, Lake Winnipeg. (*J. M. Macoun.*) Nelson and Echimamish rivers, Keewatin. (*R. Bell.*) Westward from Winnipeg to Fort Carleton, on the Saskatchewan. (*Macoun.*) Lakes Superior, Huron, Winnipeg, and Athabasca. (*Richardson.*) Common in British America. (*Hooker, Fl.*)

(2572.) **C. straminea,** Schk. (1801); Hook., Fl. II., 215.

C. leporina, Pursh, Fl. I., 36, (1814.)
C. straminea, var. *brevior,* Dew. Sill. Journ. XI., 158, (1827.)
C. straminea, var. *minor,* Dew. Sill. Journ. XI., 318, (1827.)
C. straminea, vars. *Crawei & Meadii,* Boott. Ill. 121.

In the arrangement of the various Canadian forms of this species we have followed Bailey's Carex Synopsis chiefly, but for convenience and the sake of greater accuracy in the determination, we still retain some of the older varieties placed by him under the species.

Var. **typica,** is distinguished by its stiff, erect culm, seldom two feet high, and always growing in dry places. Often in large clumps amongst rocks, or on dry prairies. Leaves quite short; spikelets seldom over five and usually at the top of the culm. Fields, Glenelg, Guysboro Co., N.S. (*Faribault.*) Kouchibouguacis; McAdam Junction, and Fredericton Junction, N.B. (*Fowler, Cat.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Dry rocks, Shannonville, Hastings Co.;

Massassagua Point, near Belleville; and on dry rocks, Tudor, North Hastings, Ont., and Livingstone Point, Lake Nipigon, Ont. (*Macoun.*) Woods near London, Ont. (*Burgess. Millman.*) Very abundant on the dry prairie west of Winnipeg, at Brandon, File Hills, Long Lake, Moose Jaw Creek, Old Wives Lakes, and westward to the Rocky Mountains. (*Macoun.*) Oba Lake, Ont.; and Nelson River, Keewatin. (*R. Bell.*) Turtle Mountain, Man., and South Antler Creek, Assiniboia. (*Burgess.*) Stony Mountain, Man. (*Prof. Fowler.*)

Var. **tenera,** Boott, Ill. 120.

C. tenera, Olney, Car. Bor. Am. (ined.)

This form is distinguished by its weak culm, longer leaves, much smaller spikelets and its different habit. Its usual habitat is damp meadows, where it grows in large clumps. It is distinguished from var. *aperta* by its erect culms and smaller spikelets. Kent Co., N.B.; rather rare. (*Fowler, Cat.*) Windsor, and Pictou, N.S. (*Macoun.*) Casselman, and Billing's Bridge, near Ottawa. (*Fletcher, Fl. Ott.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Common in wet meadows in central Ontario, extending westward to Port Arthur, and Fort William, Thunder Bay, Lake Superior. (*Macoun.*) Observation Point, Lake Winnipeg. (*J. M. Macoun.*) Abundant in damp soil, from Winnipeg westward to Manitoba House, Lake Manitoba, Brandon, File Hills, and the Elbow of the South Saskatchewan. (*Macoun.*) Lake Winnipeg. (*Hooker, Fl.*)

Var. **festucacea,** Boott, Ill. 120.

C. festucacea, Willd. (1805); Pursh, Fl. I., 38; Hook., Fl. II., 215.

Heads larger than the preceding, usually more scattered, slightly tapering to the base; perigynia long-beaked, and slightly spreading. St. John, and Digdeguash, N.B. (*Fowler, Cat.*) In meadows at Baddeck, Cape Breton. (*Macoun. Burgess.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Banks of the Riviére Rouge, at Bevin's Lake, Argenteuil Co., Q. (*D'Urban.*) Rather common in low wet meadows at Belleville, and westward through Ontario to Thunder Bay, Lake Superior. (*Macoun.*) Woodstock, Ont. (*Millman.*) London, and Parry Sound, Ont. (*Burgess.*)

Var. **fœnea,** Torrey, Cyp. 395, (1836.)

C. fœnea, Willd. Enum. Pl. Hort. Berol. 957, (1809.)

C. straminea, var. *chlorostachys,* Bœckeler, Linnæa XXXIX., 118, (1875.)

We have no Canadian specimens of this variety except one from Olney, which he obtained from Prof. Fowler, of Queen's College, Kingston, Ont., in 1870, collected in Kent Co., New Brunswick.

Var. **alata,** Bailey, Carex, Cat. (1884.)

C. alata, Torr. Cyp. 396, (1836.)
C. alata, var. *pulchra*, Olney, Exsicc. I., 14, (1870.)

Bass River, Kent Co., N.B., 1870. (*Prof. Fowler* vide *Olney.*) Not uncommon in thickets west of Portage la Prairie, Man. (*Macoun.*)

Var. **mixta,** Bailey, Carex, Syn. 151, (1886.)

C. lagopodioides, W. Boott, Bot. Calif. II., 237, (1880.)
C. adusta, W. Boott, Bot. Calif. II., 238, (1880.)

This variety is the representative of *C. straminea* on Vancouver Island. It is rather rare, being observed only on Cedar Hill, and at Nanaimo, and Alberni. (*Macoun.*)

Var. **monilliformis,** Tuckerman, Enum. Meth., 17, (1843.)

C. fœnea, var. (?) *sabulonum*, Gray, Man. Ed. V., 580, (1868.)
C. silicea, Olney, Proced. Am. Acad. VII., 393, (1868.)
C. straminea, var. *silicea*, Bailey, Carex, Cat. (1884.)

This variety is intended to include only the maritime form on the Atlantic coast. Sand beach, South Bar, North Sydney, Cape Breton; on the beach, Point Pleasant, Halifax, N.S. (*Macoun.*) Sand beaches on the coast at Kouchibouguac, N.B. (*Fowler, Cat.*) L'Anse à Griffon, Gaspé coast. (*Macoun.*)

Var. **aperta,** Boott, Ill. 120.

C. tenera, Dew. Sill. Journ. VIII., 97, (1824.)
C. tenera, var. *major*, Olney, Exsicc. II., 15, (1870.)
C. straminea, var. *tenera*, Bailey, Bot. Gaz. X., 381, (1885.)

This form is very little known in Canada, but is very likely common in the eastern provinces, and taken either for the typo or var. *tenera.* It is distinguished from my *tenera* by its globular spikelets disposed in a loose nodding head, with a long setaceous bract at the base of the lower one. In damp meadows near Casselman, thirty miles south of Ottawa. (*Fletcher, Fl. Ott.*)

(2573.) **C. leporina,** Linn., var. **Americana,** Olney, Proced. Am. Acad., 407, (1872.)

C. petasata, Dew. Sill. Journ. XXIX., 246, (1836); Hook., Fl. II., 214.
C. ovalis, Good.; Hook., Fl. II., 214, (1840.)

Rocky Mountains. (*Hooker, Fl.*) Abundant in British Columbia, at Yale, Cache Creek, Clinton, and northward to the Nachacco, and Fort McLeod, lat. 55°; also on the summit of Mount Arrowsmith, Vancouver Island. (*Macoun.*) Stikine River, above the Cañon, and at Telegraph Creek, lat. 58°, B.C. (*Dawson.*) Ounalashka. (*Rothr. Alask.*)

III. *Uppermost spikelet androgynous, male at base; the others female.*

* Stigmas II.

(2574.) **C. bicolor,** Allioni, Fl. Ped. II., 267; Hook., Fl. II., 216.

Greenland, and Labrador. (*Hooker, Fl.*) Greenland. (*Lange.*) We have Rocky Mountain specimens of *C. aurea*, which have black scales with a white centre, which approach this, but the beak of the fruit is that of the latter species.

* * Stigmas III.

(2575.) **C. Buxbaumii,** Wahl. Köngl. Acad. Handl. XXIV., 163, (1802.)

C. cancscens, Hook., Fl. II., 216, (1840.)

Bogs and beaver meadows; not uncommon from the Atlantic to the Pacific. Newfoundland. (*Reeks.*) Bog at the head of the North West Arm, Halifax, N.S.; bogs at Louisburg, Cape Breton. (*Macoun.*) Restigouche, near the mouth of the Upsalquitch; Lily Lake, N.B. (*Fowler, Cat.*) Near St. John, N.B. (*Burgess.*) Salt Lake, and Jupiter River, Anticosti; Point Fame, and Matane, Gaspé coast, Q. (*Macoun.*) Bogs, vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Beaver meadow, border of Hooper's Lake, Tudor, Hastings Co.; Red Bay, Lake Huron; Sturgeon Lake, Nipigon River; on rocks at the head of the rapid Current River, Port Arthur, and on marshy ground at Pic River, and Otter Head, east coast Lake Superior. (*Macoun.*) Bogs, near Kingston, Ont. (*Prof. Fowler.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) In mountain meadows, and bogs from Morley westward through the Rocky Mountains to Roger's Pass, Selkirk Mountains; shores of Horne Lake, near Qualicum, Vancouver Island. (*Macoun.*) Canada to Cumberland House, on the Saskatchewan; Lake Winnipeg, near Norway House; Observatory Inlet, and Sitka. (*Hooker, Fl.*) Sitka. (*Rothr. Alask.*)

(2576.) **C. Cmelini,** Hook., Bot. Beechy's Voy., 118, (1834); Hook., Fl. II., 216.

Oregon to Alaska. (*Bailey.*) North West coast, and Kotzebue Sound. (*Hooker, Fl.*) Sitka, Ounalashka, and Kotzebue Sound. (*Rothr. Alask.*) Port Etches, Alaska. (*Barclay.* Specimen sent from British Museum.)

(2577.) **C. Mertensii,** Prescott, (1833); Hook., Fl. II., 217.

C. Columbiana, Dew. Sill. Journ. XXX., 62, (1836.)

One of the finest carices we have, and even worthy of a place in our

gardens. Growing in tufts by mountain streams, and on the Pacific coast. Washington territory, and northward to Sitka. (*Bailey.*) Abundant by streams in the valleys of the Selkirk Mountains, B.C.; in stream beds on Mount Mark, Vancouver Island, alt. 2,500 feet. (*Macoun.*) Pitt River, B.C. (*Hill.*) Shores of Burrard Inlet, Vancouver city, B. C. (*Prof. Fowler.*) North West coast to Sitka. (*Hooker, Fl.*) Ounalashka, and Sitka. (*Rothr. Alask.*) Port Etches, Sitka. (*Barclay.*)

(2578.) **C. atrata,** Linn., Sp. Pl. 976, (1753); Hook., Fl. II., 216.

On mountains and by rivers and lakes in the northern forest region. Madawaska and Tobique rivers, N.B. (*Fowler, Cat.*) Nicatau Lake, N.B. (*Hay.*) Near Jupiter River, and at Becscie River, Anticosti; in fields, Gaspé Basin; and along the Ste. Anne des Monts River, Gaspé, Q. (*Macoun.*) Table-top Mountain, and Madeline River, Gaspé, Q. (*Porter.*) Temiscouata, Q. (*Burgess.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Hayes River, Keewatin. (*R. Bell.*) Shore of Current River, at Port Arthur, Lake Superior; high hills near Lesser Slave Lake, and at Peace River Cañon, lat. 56; quite common in grassy places, from Morley westward through the Rocky Mountains to Roger's Pass, Selkirk Mountains, B.C. (*Macoun.*) Along Belly River, lat. 49°. (*Burgess.*) Damp wood, Camp Akamina, Rocky Mountains, lat. 49°. (*Dawson.*) Goose Creek Mountain, five miles from Keithly, B.C., alt. 5,800 feet. (*Bowman.*) Rocky Mountains to arctic America. (*Hooker, Fl.*) Kotzebue Sound. (*Rothr. Alask.*) Frances River, near lat. 61°, north of British Columbia. (*Dawson.*)

Var. **nigra,** Boott, Ill. 114.

C. nigra, All. Fl. Ped. II., 267; Hook., Fl. II., 224, (1840.)

Apparently rare or overlooked in Canada. On the higher mountain slopes and summits of the Rocky Mountains westward from Castle Mountain to the Selkirk Mountains, at Roger's Pass, B.C.; Stewart's Lake Mountain, B.C., lat. 55°. (*Macoun.*) Labrador. (*Schweinitz, Torrey* vide *Hooker, Fl.*)

Var. **ovata,** Boott, Ill. 114.

C. ovata, Rudge, Linn. Trans. VII., 96, (1804); Hook., Fl. II., 216.

Newfoundland, and Rocky Mountains. (*Hooker, Fl.*)

(2579.) **C. heteroneura,** W. Boott, Bot. Calif. II., 239, (1880.)

Summit of the South Kootanie Pass, Rocky Mountains, 1881. (*Dawson.*) Only a few specimens were obtained, but these accord well with

the description. The light colored auricles of the bracts, and white perigynia with a purple emarginate tip, separate it from the var. *erecta* of the preceding species.

(2580.) **C. alpina,** Swartz. Lilj. Svensk. Fl., Ed. II., 26.

C. Vahlii, Schk.; Hook., Fl. II., 216, (1840.)

C. media, R. Br., App. Frankl. Narr., 763, (1823.)

C. alpina, var. *nigrescens*. Olney, Cat. Wheeler's Pl., 53.

Not uncommon northward, or on mountains. Crevices of rocks at Jupiter River, and Ellis Bay, Anticosti; fall of Ste. Anne des Monts, at the base of Mount Albert, Q.; shores of Lake Nipigon, and the shore of Lake Superior, at Port Arthur, Ont. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) Fort George, James Bay. (*J. M. Macoun.*) South Kootanie Pass, Rocky Mountains. (*Dawson.*) Wet woods, Swan Lake House, Man.; woods along the route from Edmonton to Peace River and at Lake Athabasca; occasionally met with in the Rocky Mountains, westward to Kicking Horse Lake; mountain woods at McLeod's Lake, B.C., lat. 55°. (*Macoun.*) Common in British America to Arctic coast; Rocky Mountains. (*Hooker, Fl.*) Lewes River, lat. 62°, north of British Columbia. (*Dawson.*)

(2581.) **C. Parryana,** Dew. Sill. Journ. XXVIII., 239, (1835); Hook., Fl. II., 216, in part.

C. arctica, Dew. Sill. Journ. XXVII., 239, (1835.)

C. Hallii, Olney, Hayden's Rep. 496, (1871.)

Abundant in the northern part of the prairie region, extending from Portage la Prairie by Fort Ellice, Touchwood Hills, Fort Carleton, and Edmonton, to Lac la Nun, near the Athabasca River; rather rare along the Bow River, at Morley. (*Macoun.*) Carleton Fort. (*Hooker, Fl.*) In the prairie region all the specimens have the terminal spikelet androgynous; in some of those from Lac la Nun, it is entirely staminate, and in others androgynous.

(2582.) **C. virescens,** Muhl. (1806); Pursh, Fl. I., 39, (1814.)

C. costata, Schweinitz, An. Tab. (1823.)

C. virescens, var. *elliptica*, Olney, Exsicc. III., 21, (1870.)

In open grassy woods, western Ontario. Quite common in open woods, Niagara Falls, Essex Centre, and Amherstburgh, Lake Erie. (*Macoun.*) Low woods, near Leamington, Essex Co.; and Point aux Pins, Lake Erie. (*Burgess.*)

(2583.) **C. triceps,** Michx. Fl. I., 170, (1803); Pursh, Fl. I., 40.
C. hirsuta, Willd.; Hook., Fl. II., 216, (1840.)
C. viridula, Schwein. & Torr. Car. Mon., 320, (1824.)
C. hirsuta, var. *pedunculata*, Schwein. & Torr. Car. Mon. 323, (1824.)
C. complanata, Torr. & Hook., Monogr. 408, (1836.)
C. Smithii, Porter; Olney, Exsicc. I., 28, (1870.)
C. Bolliana, Bœckeler, Flora, 40, (1878.)

Rather rare in western Ontario, or overlooked. Abundant in rocky thickets, Queenstown Heights, and Foster's Flats, near the whirlpool, Niagara Falls. (*Macoun.*)

(2584.) **C. gracillima,** Schweinitz, An. Tab. (1823); Hook. Fl. II., 217.
C. digitalis, Schwein. & Torr. Car. Mon. 324, (1824.)

Abundant in open woods and meadows. Woods at Truro, Windsor, and Yarmouth, N.S.; North Sydney, Cape Breton. (*Macoun.*) Newfoundland. (*Reeks.*) Bass River, Kent Co.; Tobique River, N.B. (*Fowler, Cat.*) Frye's Island, N.B. (*Hay.*) Petitcodiac, and Clifton, N.B. (*Brittain.*) Rather common at Ottawa. (*Fletcher, Fl. Ott.*) Common in meadows at Prescott, Ont. (*Billings.*) Kemptville, Ont. (*Porter.*) Very common from Carleton Place westward to Belleville, Owen Sound, and thence to Kakabeka Falls, thirty miles west of Port Arthur, Lake Superior. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Wet meadows, London, Ont. (*Burgess. Millman.*) Canada to Norway House, north end of Lake Winnipeg. (*Hooker, Fl.*)

(2585.) **C. formosa,** Dew. Sill. Journ. VIII., 97, (1824.)

Apparently very rare in Canada. Found in profusion in a meadow on the right bank of the Moira, near the paper mill, Belleville, Ont., June 18, 1867. Never collected since 1873.

(2586.) **C. squarrosa,** Linn., Sp. Pl. 973, (1753.)
C. typhina, Michx., Fl. I., 169, (1803.)
C. typhinoides, Schweinitz, An. Tab. (1823.)

This species seems confined to a restricted area in western Quebec and Eastern Ontario. Low sandy beach, Buckingham, Ottawa River, Q. (*Ami.*) Duck Island, near Ottawa. (*Fletcher, Fl. Ott.*)

III. *Spikelets sometimes all staminate at the tip, or with one androgynous or altogether staminate.*

* Stigmas II. or III.

(2587.) **C. petricosa,** Dew. Sill. Journ. XXIX., 246, (1836); Hook., Fl. II., 216.

Summits of the Rocky Mountains, between lat. 54°–56°. (*Drum-*

mond.) Drummond collected in the Rocky Mountains, between the sources of the Athabasca and Peace River. The latter river leaves the mountains in lat. 56° 12′, so that all his mountain species were gathered south of lat. 56°. (*Macoun.*)

(2588.) **C. Franklinii,** Boott, Hook., Fl. II., 217, t. 218, (1840.)

Rocky mountains, about lat. 56°. (*Drummond.*)

(2589.) **C. misandra,** R. Br., Suppl. Parry's Voy., 283, (1823.)

C. fuliginosa, Sternb. & Hoppe.; Hook., Fl. II., 224, (1840.)
C. misandra, var. *elatior,* Lange, Fl. Grœn., 140, (1880.)

Arctic sea-coast. (*Richardson.*) Repulse Bay, and arctic coast. (*Hooker, Fl.*) Throughout Arctic America. (*Bailey.*) Port Kennedy, Baffin Bay. (*Dr. Walker.*) Greenland. (*Lange.*) Between Fort Churchill, and York Factory, Hudson Bay. (*Dr. Rae.*) Kotzebue Sound, and Norton Sound. (*Rothr. Alask.*) Cape Chudleigh, Digge's Island, and the Eskimo Village of Hyla, Hudson Strait. (*R. Bell.*)

(2590.) **C. atrofusca,** Schkuhr. Riedgr. 106, f. 82, (1801.)

C. ustulata, Wahl.; Schk. f. 82, (1803); Hook., Fl. II., 224.

Labrador. (*Schweinitz & Torrey,* vide *Hooker, Fl.*)

(2591.) **C. aurea,** Nuttall, Gen. N. Amer. Pl. II., 205, (1818); Hook., Fl. II., 226.

C. mutica, R. Br., Frankl. Narr. App. 763, (1823.)
C. pyriformis, Schweinitz, An. Tab. (1823.)
C. aurea var. *androgyna,* Olney, Exsicc. I., 15, (1870.)

Common in wet meadows, and springy places from the Atlantic to the Pacific. Newfoundland. (*Reeks.*) Grassy places at Annapolis, Truro, and Windsor, N.S. (*Macoun.*) Pictou Co., N.S. (*McKay.*) Near St. John, Kennebeccasis Island, Andover, and Minister's Face, N.B. (*Fowler, Cat.*) Lower Tobique River, N.B. (*Hay.*) Rivière de Brig, Anticosti; on rocks along the Ste. Anne des Monts River, Gaspé, Q. (*Macoun.*) Ste. Geneviève Island, Mingan Island, and Island of Orleans, Q. (*St. Cyr.*) Madeline River, Gaspé, Q. (*Porter.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Field near Fort Wellington, Prescott, Ont. (*Billings.*) Abundant in cedar swamps and wet meadows throughout central and northern Ontario, to Red Bay, Lake Huron, and around Lake Superior, where it is chiefly the androgynous form; to Lake Nipigon, at Livingstone Point, and to Thunder Bay, at Port Arthur, and Fort William. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) London; Point aux Pins, Lake Erie; and Port Arthur, Lake Superior; Lake of the Woods. (*Burgess.*) Lake Mistassini,

N.E.T.; Severn River, Keewatin. (*J. M. Macoun.*) Oba Lake, Ont.; Knee Lake and Nelson River, Keewatin. (*R. Bell.*) Lake of the Woods; South Kootanie Pass, and north fork of Old Man River, Rocky Mountains. (*Dawson.*) Moose Mountain Creek, Assiniboia. (*J. M. Macoun.*) Abundant on the prairie in wet spots from Winnipeg westward to the Rocky Mountains, and northward to Peace River, lat. 58°; in the foot-hills, and from Morley westward through the Rocky Mountains to Roger's Pass, in the Selkirk Mountains; abundant in northern British Columbia, to Fort McLeod, lat. 55°; Somenos; and Qualicum, at Horne Lake, Vancouver Island; rather rare. (*Macoun.*) Lake Winnipeg to Carleton House and the Rocky Mountains. (*Hooker, Fl.*) Pelly River, lat. 63°, north of British Columbia. (*Dawson.*)

(2592.) **C. albata,** Bailey, in herb.

Prof. Bailey considers this the American representative of *C. frigida,* Allioni. It is a most remarkable and distinct *Carex,* and can be recognized at once by its dark brown spikelets, and long, narrow, and spreading perigynia. Spikelets usually four, nearly all staminate at the apex; scales brown, scarious-margined and blunt, and scarcely half as long as the tapering perigynium which is toothed at the apex. The lowest spikelet is generally long peduncled, and often four inches below the next one above, the two upper ones are so close together that they appear as one. Gathered in quantity on the borders of small ponds, Mount Mark, Vancouver Island, alt. 2,500 feet, July 27th, 1887. (*Macoun.*)

(2593.) **C. prasina,** Wahl. Köngl. Acad. Handl. XXIV., 161, (1802.)

C. miliacea, Muhl. (1806); Hook., Fl. II., 216; Macoun, Cat. No. 2022.

Growing in clumps in low wet places near springs in woods; rather rare. In a ravine on Simon Terrill's Farm, Brighton, Northumberland Co., Ont.; in thickets at Port Stanley, Elgin Co., Ont. (*Macoun.*) Low grounds, London, Ont. (*Burgess. Millman.*) Canada. (*Hooker, Fl.*)

(2594.) **C. debilis,** Michx., Fl. I., 172, (1803.)

C. tenuis, Rudge, Linn., Trans. VII., 97, (1804.)
C. flexuosa, Muhl.; Pursh, Fl. I., 43, (1814.)
C. debilis, var. *β.*, Boott. Ill. 92.

Not uncommon in woods and thickets in Nova Scotia, at Truro; on McNab's Island at Halifax, and at Annapolis; also abundant in grassy thickets at North Sydney, Cape Breton. (*Macoun & Burgess.*) Bass River, Kent Co., and Fredericton; Carleton Co.; common at Salmon River, N.B. (*Fowler, Cat.*) Newfoundland. (*Reeks.*)

(2595.) **C. Œderi,** Retz., Ehrh. Calam. Exsicc., No. 79; Hook., Fl. II., 225, (1840.)

C. flava, Willd.; Pursh, Fl. I., 41, (1814.)
C. viridula, Michx., Fl. I., 170, (1803.)
C. flava, var. *lutescens*, Wahl., Fl. Lapl., 234, (1812.)

In gravel on river and lake margins, from the Atlantic to the Pacific. Common along the river at Yarmouth, and Annapolis, N.S. (*Macoun.*) On the shore at Rothesay; Carleton Co.; and Tobique River, N.B. (*Fowler, Cat.*) Vicinity of Jupiter River, and at Ellis Bay, Anticosti. (*Macoun.*) River margins at Ottawa. (*Fletcher, Fl. Ott.*) Near Fort Wellington, Prescott, Ont. (*Billings.*) Shore of Toronto Island, Lake Ontario. (*Millman.*) West Rideau Lake, Ont. (*Porter.*) Abundant in moist sand, Presqu'ile Point, and Wellington Beach, Lake Ontario; Gull River, at Balsam Rapids, and up to Minden, Victoria Co.; Gull Lake, Kennebec, Addington Co.; also at Owen Sound, Ont.; Sault Ste. Marie, and around the east and north sides of Lake Superior, and northward to Lake Nipigon, at Nipigon House. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*) London; Saugeen, Lake Huron; Parry Sound, Georgian Bay; Point aux Pins, and Blenheim, Lake Erie. (*Burgess.*) Rainy River and Lake. (*Richardson.*) Rupert River, N.E.T.; and Severn River, Keewatin; Hurricane Hills, west of Moose Mountain, Assiniboia. (*J. M. Macoun.*) Abundant on the margins of salt ponds, from Winnipeg westward across the prairies to the Rocky Mountains; rather common in marshes and around springs, from Morley westward through the Rocky Mountains to Roger's Pass, in the Selkirk Mountains; common on lake margins, at Cedar Hill, Nanaimo, Qualicum, and Alberni, Vancouver Island. (*Macoun.*) Niagara, Lake Winnipeg, and Hudson Bay. (*Hooker, Fl.*) Greenland. (*Lange.*)

(2596.) **C. flava,** Linn., Sp. Pl. 975, (1753); Hook., Fl. II., 225.

C. lepidocarpa, Tausch, Flora, 179, (1834.)
C. flava, var. *androgyna*, Olney, Exsicc. III., 27, (1871.)

Not uncommon in wet meadows, and by river margins, from the Atlantic to the Pacific. Newfoundland. (*Reeks.*) Pictou, Truro, and Yarmouth, N.S. (*Macoun.*) Common in damp meadows, St. John, and Bass River, N.B. (*Fowler, Cat.*) Tobique River, N.B. (*Hay.*) Jupiter River, Anticosti; (androgynous form) and in abundance in meadows at Gaspé Basin, Q. (*Macoun*) Madeline River, Gaspé, Q. (*Porter.*) Pentecost River, Q. (*St. Cyr.*) Beaver meadows, Partridge Lake, Grimsthorpe, North Hastings; in great profusion in a meadow near Foxboro, Hastings Co.; one mile north of Colborne, Northumberland Co.; beaver meadows, Lake Isaac, Bruce Peninsula; marshy place, mouth of Current River, Port Arthur, Lake Superior; Nipigon

House, Lake Nipigon, north of Lake Superior. (*Macoun.*) Swampy river flat, London, Ont. (*Burgess. Millman.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Rather common on the margins of rivers and small streams, from the Kananaskis westward through the Rocky Mountains to the Columbia Valley, at Donald, B. C. (*Macoun.*) Lake Winnipeg. (*Hooker, Fl.*)

Var. **rectorostrata,** Bailey, (ined.)

C. Urbani, (?) Bœckeler, Engler's Bot. Jahrb. VII., 280, (1886.)

Plant less yellow than the species. Spikes more scattered, the lowest two or three inches from the next above, remote and usually conspicuously stalked, beak short, straight or nearly so. (*Bailey.*) This form seems to me to come between *C. flava,* and *C. Œderi,* but is unlike either. The specimens referred here agree in many respects with the description of *C. Urbani,* but as that species is based on immature specimens, allowance must be made for inaccuracies. Our specimens are in some cases one foot or more high, and in most cases the lower spikelet is distant and compound. The plant approaches *C. flava* in general appearance, but the spikelets and perigynia are much smaller, and the latter is not reflexed at maturity. Nanaimo, Goldstream, Shawnigan Lake, and Horne Lake near Qualicum, Vancouver Island. Habitat is in wet gravel along rivers or lakes. (*Macoun.*) Spence's Bridge, along the Thompson River, B.C., 1885. (*Fletcher.*)

V. *Spikelets unisexual, the upper male; mostly single; the rest female or sparingly androgynous.*

* Stigmas II.

(2597.) **C. cæspitosa,** Linn., Fl. Suec. Ed. II., 333.

C. concolor, R. Br. Suppl. App. Parry's Voy., 218, (1823.)
C. Pacifica, Drejer., Fl. Ex. Hafn., 292.
C. Drejeri, Lang. Fl. Ratisb., 548.

Said by Bœeckler to occur in British America. (*Bailey.*) Newfoundland. (*Reeks.*) Between Repulse Bay and Cape Lady Pelly, Hudson Bay. (*Dr. Rae.*) Wet meadow, Nachacco River, British Columbia. The specimens referred here are young, but they resemble very closely *C. cæspitosa* of Europe. (*Macoun.*)

Var. **filifolia,** Boott. Ill. 182.

C. aperta, var. *angustifolia,* Boott, Hook., Fl. II., 218, (1840.)

Fort Good Hope, Mackenzie River, lat. 67°. (*Dr. Richardson.*) Cascade Mountains, lat. about 49°. (*Dr. Lyall.*) A stouter form. (*Bailey.*)

(2598.) **C. vulgaris,** Fries. Mant. III., 155, (1846.)

C. cæspitosa, Good., Linn. Trans. II., 195, (1792); Pursh, Fl. I., 38.
C. Goodenovii, Gay, Ann. Sci. Nat. (2d. Ser.) XI., 191, (1838.)
C. limula, (?) Gray, Man. Ed. V., 582, (1868.)
C. dubitita, Sommers, Cat. Nov. Scotia Plants.

This species, in one form or another, crosses the continent from the Atlantic to the Pacific. Newfoundland. (*R. Bell.*) Abundant in wet meadows at Truro, Windsor, Yarmouth, Point Pleasant, and North West Arm, Halifax, N.S. (*Macoun & Burgess.*) Pictou, Co., N.S. (*McKay.*) Halifax, N.S. (*Sommers, Cat.*) Bass River, Kent Co., and Carleton Co., N.B. (*Fowler, Cat.*) St. Andrews, N.B. (*Vroom.*) Boggy places, at South West Point, Anticosti; low meadows at Gaspé Basin, and Rivière Pierre, Gaspé coast, Q. (*Macoun.*) Mingan River, Q. (*St. Cyr.*) Cacouna, St. Lawrence River. (*Burgess.*) Mecatina River, Q. (*McGill Coll. Herb.*) Lake Superior, Lake Huron, and Lake Winnipeg. (*Richardson.*) North shore of Lake Superior. (*Agassiz.*) In a wet prairie near McLeod's Lake, B. C. (*Macoun.*) Alaska. (*Bailey.*) Greenland. (*Lange.*) Sitka, and Kotzebue Sound. (*Rothr. Alask.*)

Var. **juncella,** Fries, Summa, 230.

C. Kelloggii, W. Boott, Bot. Calif. II., 240, (1880.)

Specimens referred here by Mr. W. Boott, were collected at Yarmouth, at the railway bridge over the Weymouth, and at Windsor, N.S.; shores of Red Bay, Lake Huron. (*Macoun.*) Western summit of the North Kootanie Pass, Rocky Mountains. (*Dawson.*)

Var. **hyperborea,** Boott. Ill. 167.

C. Bigelovii, Torr.; Schweinitz, An. Tab. (1823.)
C. Washingtoniana, Dew. Sill. Journ. X., 272, (1826.)
C. saxatilis, Dew., Wood's Bot. Ed. I., 581, (1845.)
C. saxatilis, var. *Bigelovii*, Torr. Cyp. 397, (1836.)
C. hyperborea, Drej. Revis. Crit. Car. 41, (1841.)
C. rigida, var. *Bigelovii*, Tuckerman, Enum. Meth. 19, (1843.)
C. dubitata, Dew., Wood's Bot. 755, (1861.)
C. rigida, Good.; Hook., Fl. II., 217, in part, (1840.)

On the summit of Mount Albert, Shickshock Mountains, Gaspé, alt. 4,000 feet. (*Macoun.*) Lower St. Lawrence, Q. (*Pringle.*) Nain, and Ford's Harbor, coast of Labrador; Cape Chudleigh, and Eskimo Village of Hyla, Hudson Strait. (*R. Bell.*) Labrador, and arctic coast. (*Hooker, Fl.*) Northern California to Alaska. (*Bailey.*) Greenland. (*Lange.*) Kotzebue Sound, and Norton Sound. (*Rothr. Alask.*)

Var. **alpina,** Boott. Ill. 167.

C. rigida, Good.; Hook., Fl. II., 217, in part, (1840.)

Mountains of Colorado to Alaska. (*Bailey.*) Mountains near McLeod's Lake, lat. 55°, northern British Columbia. (*Macoun.*)

(2599.) **C. decidua,** Boott, Linn. Trans. XX., 119, (1845.)

C. Andersoni, Boott, Hook., Fl. Antarct. II., 364.

Ounalashka, 1885. Gathered by Mr. S. Applegate, Signal Observer at that station, and determined by Prof. Bailey. A few specimens of a *Carex* akin to this were gathered at Roger's Pass, Selkirk Mountains, in the summer of 1885. They agree with Prof. Bailey's remark on page 81 of his synopsis, in having the "scales and perigynia deciduous; perigynium conspicuously stipulate and strongly nerved." It may be a form of *C. vulgaris,* but we have not material enough to determine.

(2600.) **C. invisa,** Bailey, Carex, Syn. No. 68, (1886.)

C. podocarpa, W. Boott, Bot. Calif. II., 245, (1880.)

On the summits of the higher Rocky Mountains, at Kicking Horse Lake and westward to Roger's Pass, Selkirk Mountains; abundant on the summit of Mount Arrowsmith, Vancouver Island, alt. 5,500 feet. (*Macoun.*)

(2601.) **C. Jamesii,** Torrey, Cyp., 398, (1836.)

C. compacta, Hook., Fl. II., 220, (1840.)

South Kootanie Pass, Rocky Mountains, lat. 49°. (*Dawson.*) Rocky Mountains. (*Hooker, Fl.*) Rather common in wet places from Morley westward through the Rocky Mountains to Roger's Pass, in the Selkirk Mountains, B.C. (*Macoun.*) Cariboo Mountains, B.C., alt. 6,000 feet. (*Bowman.*)

(2602.) **C. aquatilis,** Wahl. Köngl. Acad. Handl. XXIV., 165, (1802.)

Common in wet meadows and ditches from the Atlantic to the Pacific and northward. Newfoundland. (*Reeks.*) In ditches at Truro, Halifax, and Windsor, N.S. (*Macoun.*) Kent, and St. John Co's., and Harris Cove, N.B. (*Fowler, Cat.*) Salt Lake, and Becscie River, Anticosti; mouths of all rivers on the Gaspé coast, and at Mont Louis and Grand Etang, Q. (*Macoun.*) Jacques Cartier River, Quebec Co., Q. (*St. Cyr.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Abundant in marshes along the Bay of Quinte, and westward throughout Ontario to Lake Huron, and north-westerly around Lake Superior to Thunder Bay, at Port Arthur. (*Macoun.*) Island east of Mississaugi Point, Lake Huron; Nelson River, and York Factory, Hudson Bay. (*R. Bell.*)

Lake Mistassini, N.E.T.; Charlton Island, "The Twins," and Fort George, James Bay; Severn River, Keewatin; Muskeg Island, Lake Winnipeg. (*J. M. Macoun.*) Lakes Superior and Huron; Fort Simpson, Fort Chipweyan, and Methy Portage. (*Richardson.*) Wet prairies at Emerson, Man. (*Burgess.*) Extremely abundant over the whole prairie region, on the borders of ponds and in marshes, extending northwesterly to Peace River, in lat. 58°; rather common in the Rocky Mountains, from Calgary, on Bow River, to Roger's Pass, in the Selkirk Mountains, B.C.; common in northern British Columbia, extending far northward; rather rare on Vancouver Island; only observed at Lost Lake, near Cedar Hill. (*Macoun.*) Canada to Mackenzie River; Rocky Mountains. (*Hooker, Fl.*) Ounalashka and Kotzebue Sound. (*Rothr. Alask.*)

Var. **epigelos,** Læst. Vet. Ac. Handl., 339, (1822.)
C. stans, Drej. Revis. Crit. Car. 40, (1841.)
C. aquatilis, var. *minor,* Boott, Ill. 163.

From Colorado to the Arctic coast. (*Bailey.*) Arctic sea-coast. (*Richardson.*) In meadows at the mouth of Madeline River, Gaspé coast, Q.; in ditches near Windsor, N. S. Evidently approaching *C. stricta,* but neither young nor old sheaths reticulated; another form named *C. borealis* by Olney, was gathered along the shore of Lake Superior, at Thunder Bay, in 1869. This specimen seems to approach *C. vulgaris* var. *juncella.* (*Macoun.*)

(2603.) **C. stricta,** Lamarck, Dict. De. Bot. III., 387, (1789.)
C. acuta, Pursh, Fl. I., 38, (1814.)
C. angustata, Boott, Hook., Fl. II., 218, (1840.)
C. strictior, Dew., Wood's Cl. Book, 755, (1861.)
C. Virginiana, var. *elongata,* Bœckeler, Linnæa, XL., 432, (1875.)

Common in ditches; growing in thick clumps, especially in the eastern provinces. Newfoundland. (*Reeks.*) Halifax, N.S. (*Sommers, Cat.*) Common in boggy meadows at North Sydney, and Louisburg, Cape Breton; abundant in ditches and bogs at Point Pleasant, Halifax, and Yarmouth, N.S. (*Macoun.*) Glenelg, Guysboro Co., N.S. (*Faribault.*) Richibucto, Kent Co.; Fredericton, Norton, and Salmon River, N.B. (*Fowler, Cat.*) Becscie River, Anticosti. (*Macoun.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Common around Prescott, Ont. (*Billings.*) Vicinity of Hamilton, Ont. (*Logie.*) Common in marshy meadows near Belleville, and at Trenton, and Owen Sound, Ont.; near Lake Ellen, Nipigon River, and along the Kaministiqua, west of Port Arthur. (*Macoun.*) West of Grand Island marsh, Georgian Bay. (*R. Bell.*) Wet river bank, London, Ont. (*Burgess.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*)

A remarkable form of this species grows at Campbellford, Northumberland Co., Ont. As usual, it grows in large clumps about three feet high, but instead of the spikes being sessile, they are peduncled, or have scattered perigynia for nearly half their length, which is often from three to four inches. The sheaths are scarcely fibrilose, and many of the perigynia are abortive. I conclude from these characters that it is a hybrid between *C. aquatilis* and *C. stricta.*

Var. **decora.** Bailey, Coult. Bot. Gaz. XIII., 85.

C. aperta, Carey, Gray, Man. Ed. V., 582, (1868.)

Usually smaller and more slender than the species, the basal sheaths not fibrilose; spikes short (seldom over an inch long), sessile or nearly so, very rarely attenuated at the base, spreading; bracts usually conspicuously spreading; scales very sharp, spreading, longer than the perigynia. (*Bailey.*) A very obscure species and evidently not the one figured by Boott. I agree with Prof. Bailey in doubting the accuracy of the eastern *C. aperta.* My specimens, though named by Dewey and Olney, appear to be *C. stricta*, var. *strictior*, Carey; Gray, Man. V., 583, (1868.) (*Macoun.*) Near Richibucto, Kent Co.; and rather common at Salmon River, N.B. (*Fowler, Cat.*) Tobique River, N.B. (*Hay.*) Mer Bleue, near Ottawa. (*Fletcher, Fl. Ott.*) Border of a little lake one mile north of Hooper's Lake, Tudor, North Hastings, Ont.; fifteen miles up the Kaministiqua, west of Port Arthur, Lake Superior. (*Macoun.*) Wet river bank, London, Ont. (*Burgess.*) Specimens collected on the Nachacco River, in northern British Columbia, in 1875, are referred here. I doubt their identity with the eastern specimens, but they are placed here for the present.

(2604.) **C. lenticularis,** Michx., Fl. I., 172, (1803); Hook., Fl. II., 219.

Abundant in the beds of rivers, growing in the crevices of rocks in large tufts. Chiefly found in northern Ontario, and north-eastward. Coast of Labrador, lat. 51° 30′. (*Allen.*) Bass River, Kent Co.; not rare at Salmon River; St. Stephen, N.B. (*Fowler, Cat.*) Amongst rocks, Ste. Anne des Monts River, Gaspé, Q.; on wet rocks in rear of the old saw-mill, Marmora village, Hastings Co.; shore of Gull Lake, Barrie, Addington Co.; abundant from Balsam Lake, the whole length of Gull River, Victoria Co.; very abundant all around Lake Superior, and north up Nipigon River to the Lake. (*Macoun.*) Shallow water, Port Cockburn, Lake Joseph, Muskoka Co., Ont. (*Burgess.*) Michipicotin River, Ont. (*R. Bell.*) Lake Mistassini, N. E. T.; Severn

River, Keewatin. (*J. M. Macoun.*) Saskatchewan, and northward to Bear Lake. (*Bailey.*) Canada to Mackenzie River. (*Hooker, Fl.*) Methy Portage. (*Richardson.*)

(2605.) **C. acuta,** Linn., Sp. Pl., 1388, (1757.)

C. aperta, var. *divaricata*, Bailey, Bot. Gaz. IX., 119, in part, (1884.)

We have few specimens which we can refer here, but place them mostly under the variety which follows. Sitka. (*Rothr. Alask.*) Lewes River, lat. 62°, N.W.T. (*Dawson.*)

Var. **prolixa,** Hornem. Plantel. Ed. IV.

C. prolixa, Fries. Mant. III., 150, (1835.)
C. aperta, Boott, Hook., Fl. II., 218, (1840.)

Very abundant in low grounds, producing very good hay in numerous places, especially at Cedar Hill, and Nanaimo. Specimens were collected at Cedar Hill, Goldstream, Shawnigan Lake, Qualicum, Mount Arrowsmith, and Sproat Lake, on the west coast of Vancouver Island. (*Macoun.*) In meadows at Victoria, Vancouver Island. (*Fletcher.*)

(2606.) **C.** GLAUCA, Scopoli, Fl. Germ. 455.

Introduced on dry clay banks of the railway cutting just outside of Windsor, N.S. (*Macoun & Burgess.*) On the border of a meadow, in poor soil, London, Ont. (*Burgess.*)

(2607.) **C. torta,** Boott; Tuckerman, Enum. Meth. (1843.)

C. torta, var. *composita*, Porter.

Borders of streams and in wet meadows in the maritime provinces. Halifax, N.S. (*Sommers, Cat.*) Along a small stream at Truro, N.S. (*Macoun & Burgess.*) Salmon Creek, and Gaspereaux River; Petitcodiac, N.B. (*Fowler, Cat.*)

(2608.) **C. salina,** Wahl., Fl. Lapp. 246, (1812.)

C. cuspidata, Wahl. Köngl. Acad. Handl. XXIV., 164, (1802.)
C. stricta, Hook. & Arn. Bot. Beechey's Voy., 131, (1834.)
C. recta, Boott, Hook., Fl. II., 220, (1840.)
C. hæmatolepis, Drej. Revis. Crit. Car. 44, (1841.)

Very abundant in salt marshes in almost every part of Nova Scotia and around the Gulf of St. Lawrence. Newfoundland. (*Reeks.*) Coast of Labrador and about Hudson Bay. (*Bailey.*) Louisburg, and North Sydney, Cape Breton; Truro, Annapolis, Yarmouth and Halifax, N.S. (*Macoun.*) Salt marsh at Molus Bay, Kent Co., N.B. (*Fowler, Cat.*) Salt Lake and English Bay, Anticosti; Cape Rosier, Fox River,

Grand Etang and Madeline River, Gaspé coast, Q. (*Macoun.*) Mouth of Saguenay River, Q. (*Pringle.*) Ouatchechou, Q. (*St. Cyr.*) Hudson Bay, Labrador, and Kotzebue Sound. (*Hooker, Fl.*)

Var. **mutica,** Wahl. Fl. Lapp. 246, (1812.)
C. lanceata, Dew. Sill. Journ. XXIX., 249, (1836.)
C. reducta, Drej. Revis. Crit. Car. 46, (1841.)
C. salina, var. *minor,* Boott, Ill. 160, in part.
C. salina, var. *β.,* Boott, Hook., Fl. II., 219, (1840.)
Cumberland House, on the Saskatchewan, and Hudson Bay. (*Hooker, Fl.*) Coast of Greenland. (*Lange.*)

Var. ? **robusta,** Bailey, Coult. Bot. Gaz. XIII., 87.
Taller and coarser than the species (two to three feet high), the culm spongy at the base; leaves soft; bracts very leafy, surpassing the culm; spikes heavy, short and thick (usually an inch or less long, and nearly half an inch thick), mostly dense and truncate at the base, somewhat aggregated, the lower short stalked; scales ranging from lanceolate and acute to ovate and obtuse, brown with a white midnerve, longer than the thinner nerveless perigynium. All the perigynia are empty. (*Bailey.*) The specimens were growing in large patches between tides in the bed of Qualicum River, Vancouver Island They were generally covered with water to the height of a foot or more at high tide. I cannot believe that this is a form of *C. salina,* as it is quite distinct from that species in general appearance, but leave it with Prof. Bailey to settle it. Collected July 29, 1887. (*Macoun.*)

Since the above was in type, I have received further information regarding this form from Mr. Arthur Bennett, F.L.S., Croyden, England. The specimens sent to him were forwarded to Kew, and were examined by Mr. C. B. Clarke, who could not match them in Kew herbarium, but suggested *C. pulla,* Good., as a possibility. Later examinations seem to convince Mr. Clarke that this is *C. physocarpa,* Presl, Reliq. Hænk. I., 205. Mr. Bennett thinks, on the other hand, that if Kunth represents correctly Presl's plant, he cannot agree with him, and says, "if this is not *C. physocarpa,* then it is a new species so far as we have material at Kew to go upon, for which I propose the name *C. Macounii* (non Dewey Sill. Journ.) characterized by its extremely (almost wanting) short beak to the perigynia with a smaller base, semi-inflated nerved fruits much shorter than the glumes."

(2609.) **C. ambusta,** Boott, Ill. 64.
C. salina, var. *ambusta,* Bailey, Carex, Cat. (1884.)
Ungava Bay, North Labrador; northern British Columbia; Sitka,

and Ounalashka. (*Bailey, Carex, Syn.*, 88.) Francis River, lat. 61°; Pelly River, lat. 62°; Lewes River, lat. 62°, N.W.T. (*Dawson.*)

(2610.) **C. subspathacea,** Wormskjold, Fl. Dan. IX., 4, (1818.)

C. Hoppneri, Boott, Hook., Fl. II., 219, (1840.)
C. salina, var. *subspathacea*, Tuckerman, Enum. Meth. 12, (1843.)
C. salina, var. *minor*, Boott, Ill. 160, in part.

Cumberland House and Hudson Bay. (*Hooker, Fl.*) Salt marsh, near Cape Rosier, Gaspé, 1861. (*J. Bell.*) Greenland. (*Lange.*)

(2611.) **C. cryptocarpa,** C. A. Meyer, Mem. Acad. St. Petersb. I., 226, (1831.)

C. Scouleri, Torr. Cyp. 399, (1836.)
C. filipendula, Drej. Revis. Crit. Car. 46, (1841.)
C. salina, Boott, Hook., Fl. II., 219, in part, (1840.)

Salt marshes at Cape Rosier, and Fox River, Gaspé coast. Collected in 1882. (*Macoun.*) Queen Charlotte Islands; and at Lake Karmutzen, Vancouver Island. (*Dawson.*) Near Victoria, Vancouver Island. (*Fletcher.*) Abundant at Oak Bay, near Victoria, at the mouth of Nanaimo River, in marshes at Qualicum, and on the west coast of Vancouver Island, at Alberni; also by a lake near Fort St. James, northern British Columbia. (*Macoun.*) Clemincitty Harbor, and Sitka. (*Hooker, Fl.*) Ounalashka, Sitka, and Kotzebue Sound. (*Rothr. Alask.*) Along Burrard Inlet, at Vancouver city, B.C. (*Prof. Fowler.*) Alaska. (*Meehan.*) Greenland. (*Lange.*)

(2612.) **C. Sitchensis,** Prescott, (1831); Hook., Fl. II., 220.

A very fine and remarkably distinct species, growing in profusion on many parts of the Pacific coast. Along the Fraser River, at Ladner's Landing, B.C. (*Fletcher.*) Marshes near Alert Bay, Vancouver Island. (*Dawson.*) In meadows and by lakes and streams; common at Cedar Hill, Goldstream, Somenos, Shawnigan Lake, Nanaimo, Qualicum, Horne Lake, and Alberni, on the west coast of Vancouver Island. (*Macoun.*) Puget Sound, and Sitka. (*Hooker, Fl.*)

(2613.) **C. Barbaræ,** Dew. Bot. Mex. Bound. 231, (1858.)

C. Schottii, Dew. Bot. Mex. Bound. 231, (1858.)
C. Prescottiana, Olney, Bot. King's Exp. V., 369, (1871.)

Wet ground near Victoria, Vancouver Island. (*Fletcher.*) Abundant in wet meadows by lakes and marshes, at Cedar Hill, Goldstream, Chemainus, Nanaimo, Qualicum, and Alberni, Vancouver Island. (*Macoun.*) Shores of Burrard Inlet, Vancouver city, B.C. (*Prof. Fowler.*) Port Etches, Alaska. (*Barclay.*)

(2614.) **C. maritima,** Müller, Fl. Dan. t. 793; Hook., Fl. II., 219.

C. paleacea, Wahl. Köngl. Acad. Handl. XXIV., 164, (1802.)

Salt marshes around the coasts of the maritime provinces. Newfoundland. (*Reeks.*) Annapolis, N.S. (*Burgess.*) Marshes at Truro, N.S; Salt Lake, Ellis Bay, and Rivière de Brig, Anticosti; Gaspé Basin, and Fox River, Gaspé coast, Q. (*Macoun.*) Bridgetown, N.S. (*Prof. Fowler.*) Salt marshes, Molus River, and Lancaster, N.B. (*Fowler, Cat.*) Rupert House, James Bay. (*J. M. Macoun.*) Hudson Bay. (*Hooker, Fl.*) Temiscouata, St. Lawrence River. (*Pringle.*) Couetatchou-Manicouagan, Q. (*St. Cyr.*)

(2615.) **C. crinita,** Lamarck, Dict. de Bot. III., 393, (1789); Pursh, Fl. I., 38, (1814); Hook., Fl. II., 219, (1840.)

C. crinita, var. *paleacea,* Dew. Sill. Journ. X., 270, (1826.)
C. Mitchelliana, M. A. Curtis, Sill. Journ. XLIV., 84, (1843)
C. crinita, var. *minor,* Boott, Ill. 18.
C. pendula, Sommers, Cat. Nov. Scotia Plants.

Rather uncommon in low meadows and by streams, growing in clumps. Brigus, and Topsail, Newfoundland. (*R. Bell.*) Pictou, N.S. (*McKay.*) Near Bedford, N.S. (*Sommers, Cat.*) By brooks at Truro, and Windsor, N.S. (*Macoun.*) Along rills and brooks, at Kouchibouguac, and Norton, N.B. (*Fowler, Cat.*) St. Sauveur, near Quebec. (*St. Cyr.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Common at Prescott, Ont. (*Billings.*) Abundant in moist places by brooks, Argenteuil Co., Q. (*D'Urban.*) St. Andrews, Montreal. (*McGill Coll. Herb.*) Richelieu Swamp, Q. (*C. F. McCrea.*) Tadousac, Saguenay River, Q. (*A. T. Drummond.*) Rather common in central Ontario, in large tufts at Canniffton, Hastings Co., Ont. (*Macoun.*) Near Hamilton, Ont. (*Logie.*) Low grounds, London, Ont. (*Burgess. Millman.*) Canada to Norway House. (*Hooker, Fl.*)

Var. **gynandra,** Schwein. & Torr., Mon. 360, (1824.)

C. gynandra, Schweinitz, An. Tab. (1823.)

Apparently confined to the eastern provinces. Campbellton, N.B. (*Chalmers.*) Tobique River, N.B. (*Fowler, Cat.*) Grand Vallée, Gaspé coast, Q. (*Macoun.*)

(2616.) **C. podocarpa,** R. Brown, App. Frankl. Narr., Ed. II., 36; Hook., Fl. II., 224.

C. macrochæta, C. A. Meyer, (1830); Hook., Fl. II., 219.
C. spectabilis, Dew. Sill. Journ. XXIX., 248, (1836.)

A very remarkable species and easily distinguished by the long thread-like awns of the scales. Mountains of British America to Alaska.

(*Bailey.*) Stikine River. (*Cowley.*) Lewes River, lat. 62°, N.W.T. (*Dawson.*) Port Etches, Alaska. (*Barclay.*) Sitka, and Rocky Mountains. (*Hooker, Fl.*) Ounalashka, and Sitka. (*Rothr. Alask.*)

* * Stigmas III.

† *Perigynium beakless or short-beaked, the orifice entire, emarginate, or bidentate.*

‡ *Perigynium smooth.*

(2617.) **C. Magellanica,** Lamarck, Dict. de Bot. III., 385, (1789.)

C. irrigua, Smith; Hook., Fl. II., 224, (1840.)
C. limosa, var. *irrigua,* Wahl. Köngl. Acad. Handl. XXIV, 162, (1803.)
C. limosa, var. *irrigua,* Wahl. Fl. Lap. 243, (1812.)
C. paupercula, Michx, Fl. I., 172, (1803.)
C. lenticularis, Dew. Sill. Journ. VII., 273, (1823.)

In peat bogs, Newfoundland. (*La Pylaie.*) Labrador. (*McGill Coll. Herb.*) In peat bogs near Point Pleasant, and at the head of the North West Arm, Halifax, N.S.; bog near North Sydney Mine, Cape Breton. (*Macoun & Burgess.*) Peat bogs, Kent Co.; Lily Lake, N.B. (*Fowler, Cat.*) Nepisiquit Lake, N.B. (*Hay.*) Salt Lake, Ellis and English bays, Anticosti; Mount Albert, Gaspé, Q. (*Macoun.*) Thunder River, Q. (*St. Cyr.*) All peat bogs near Ottawa; not common. (*Fletcher, Fl. Ott.*) Swamp near Heck's Mills, Prescott, Ont. (*Billings.*) Common in bogs throughout central Ontario, and westward to Red Bay, Lake Huron; and north-westerly to Michipicotin, and Red Rock, and around Port Arthur, Lake Superior. (*Macoun.*) Bogs, London, Ont. (*Burgess. Millman.*) Cranberry marsh, Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Swamps on Mount Mark, Vancouver Island. (*Macoun.*) Norway House, Lake Winnipeg. (*Hooker, Fl.*)

(2618.) **C. rariflora,** Smith, Engl. Bot. t. 2516; Hook., Fl. II., 224.

C. limosa, var. *rariflora,* Wahl. Köngl. Acad. Handl. XXIV., 162, (1803.)

Salt Lake, Anticosti, in a peat bog, 1883. (*Macoun.*) Ouatchechou, Q. (*St. Cyr.*) South Twin Island, James Bay. (*J. M. Macoun.*) Labrador. (*Miss Brodie* vide, *McGill Coll. Herb.*) Labrador. (*Allen. Storer.*) Lake Mistassini; Fort Franklin, Mackenzie River, lat. 64°. (*Hooker, Fl.*) Greenland. (*Lange.*)

(2619.) **C. limosa,** Linn. Sp. Pl. 977, (1753); Hook., Fl. II., 224.

C. laxa, Dew. Sill. Journ. XXVI., 376, (1834.)
C. limosa, var. *Paineï,* Dew. Sill. Journ. (2d Ser.) XXIX., 71.

Peat bogs, from the Atlantic to the Pacific, especially northward.

In the "Old Moat" at Louisburg, Cape Breton; in bogs at the head of North West Arm, Halifax, N.S. (*Macoun.*) Peat bogs, Richibucto, Bass River, N. B. (*Fowler, Cat.*) Kendrick's Lake, N. B., 1882. (*Vroom.*) Miscou Island, N.B. (*Hay.*) Trout Lake, Charlotte Co.; Portage Lake, Westmoreland Co., N.B. (*Brittain.*) Salt Lake, Anticosti; Mount Albert, Shickshock Mountains, Gaspé, Q. (*Macoun.*) Bogs, near Ottawa. (*Fletcher, Fl. Ott.*) Peat bog, five miles north of Colborne, Northumberland Co.; marsh, Red Bay, Lake Huron; and marsh at Red Rock, Lake Superior; also at the mouth of the Kaministiqua, near Port Arthur, Thunder Bay. (*Macoun.*) Mossy bog, London, Ont. (*Burgess. Millman.*) Marsh at Port Colborne. (*McGill Coll. Herb.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) Hudson Bay, near Fort Severn. (*J. M. Macoun.*) Not uncommon in peat bogs and marshes, from the Kananaskis westward through the Rocky Mountains to Roger's Pass, in the Selkirk Mountains, B.C.; bogs near McLeod's Lake, B.C., lat. 55°. (*Macoun.*) Rocky Mountains; Sitka, and North West coast. (*Hooker, Fl.*) Sitka. (*Rothr. Alask.*)

Var. **stygia,** Bailey, Carex, Syn. 95, (1886.)

C. stygia, Fries. Mant. III., 141.
C. rariflora, Rothrock, Pl. Alask. 457. (?)

Spikes mostly thicker and more drooping than in the species; scales very black, longer pointed. Alaska and Shumagan Island. (*Bailey.*) Ounalashka, and Bay of Schischmareff. (*Rothr. Alask.*) We place here the *C. rariflora* of Rothrock in Dall's Alaska.

(2620.) **C. Raynoldsii,** Dew. Sill. Journ. XXXII., 39, (1837.)

C. Lyallii, Boott, Ill. 150, t. 483.

Mountains of Montana, and Washington territory. (*Bailey.*) Will likely be found north of lat. 49°, B.C.

(2621.) **C. stylosa,** C. A. Meyer, Act. Acad. St. Petersb. I., 222, (1831.)

C. nigritella, Drejer. Revis. Crit. Car. 32, (1841.)
C. Parryana, Hook., Fl. II., 216, in part, (1840.)

Fox Harbor, Labrador. (*Allen.*) Sitka, and Ounalashka. (*Rothr. Alask.*) Greenland. (*Lange.*)

(2622.) **C. Tolmiei,** Boott, Hook., Fl. II., 224, (1840.)

C. vulgaris, Olney, Proc. Am. Acad. 407, (1872.)

South Kootanie Pass, Rocky Mountains. (*Dawson.*) The specimens referred here are identical with those of Suksdorf, gathered on Mount Adams, Washington Territory, 1883.

(2623.) **C. livida,** Willd. Sp. Pl. IV., 285, (1805); Hook., Fl. II., 224.

C. limosa, var. *livida*, Wahl. Köngl. Acad. Handl. XXIV., 162, (1802.)
C. Gayana, Dew. Sill. Journ. XXV., 141, (1834.)
C. livida, var. *radicalis*, Paine, Cat. Oneida Co. Plants.

Peat bog at Louisburg, Cape Breton. (*Macoun & Burgess.*) Bogs, Salt Lake, Anticosti; in a beaver meadow, Huntingdon, Hastings Co.; Kiladar, Addington Co.; marsh, Chicken Bay, Lake Huron; in a marsh at Morley, Rocky Mountains; in marshes along Beaver Creek, near Roger's Pass, Selkirk Mountains. (*Macoun.*) Hudson Bay to Cumberland House and Fort Carleton, and thence to the Rocky Mountains; Sitka, and North West coast. (*Hooker, Fl.*) Labrador, and Lake Superior, and high northward. (*Bailey.*) Sitka. (*Rothr. Alask.*) Arctic sea-coast. (*Richardson.*)

(2624.) **C.** PANICEA, Linn. Sp. Pl. 977, (1753.)

Wet meadows, Bass River, Kent Co., N.B. (*Fowler, Cat.*) In meadows, two miles from Windsor, N.S.; along the "pipe line" for the water supply; also in marshy meadows around the ruins of Louisburg, Cape Breton. (*Macoun & Burgess.*) As in both cases the species was found in cultivated ground, we consider it introduced. The dark purple (Louisburg) or purple margined (Windsor) scale, distinguish it from every form of the next.

(2625.) **C. tetanica,** Schkuhr. Riedgr. Nachtr, 68, (1806); Pursh, Fl. I., 43.

C. refracta, Willd. Sp. Pl. IV., 297, in part, (1805.)
C. Woodii, Dew. Sill. Journ. II., 487, (1846.)
C. panicea, var. *tetanica*, Olney, Exsicc. I., 23, (1870.)
C. panicea, var. *Woodii*, Olney, Exsicc. II., 27, (1871.)
C. panicea, var. *Bebbii*, Olney, Exsicc. I., 22, (1870.)
C. Meadii, var. *Bebbii*, Arthur, Contr. Fl. Iowa, VI.

Culm slender; leaves narrow, green; spikes pale, mostly greenish, mostly thin and loosely flowered, attenuated below. (*Bailey.*) Sparingly in a meadow east of Belleville, Ont.; abundant in Manitoba and westward; especially common in low meadows east of Brandon. (*Macoun.*)

(2626.) **C. Meadii,** Dew. Sill. Journ. XLIII., 90, (1842.)

C. panicea, var. *Meadii*, Olney, Exsicc. I., 24, (1870.)
C. panicea, var. *Canbyi*, Olney, Exsicc. II., 24, (1871.)
C. tetanica, var. *Meadii*, Bailey, Carex, Syn. 118, (1886.)

Our specimens of this species are so different from those of *C. tetanica* that we consider them specifically distinct. Filo Hills, and Qu'Appelle Valley, Assiniboia. (*Macoun.*)

(2627.) **C. vaginata,** Tausch. Bot. Zeit. 557, (1821.)
C. panicea, var. *sparsiflora*, Wahl. Fl. Lapp. 236, (1812.)
C. phæostachya, Smith; Hook., Fl. II., 226, (1840.)
C. sparsiflora, Steud. Nom. Bot. 296, (1840.)
C. vaginata, var. *alto-caulis*, Dew. Sill. Journ.
C. panicea, var. *refacta*, Olney, Exsicc. I., 24, (1870.)

Northern Labrador. (*Turner.*) Swampy wood, Salt, Lake, Anticosti; Mount Albert, Shickshock Mountains, Gaspé, Q. (*Macoun.*) Harbor Island, Mingan, Q. (*St. Cyr.*) Recollet Swamp, Montreal. (*C. F. McCrea.*) Abundant in cedar swamps at Belleville, and westward throughout northern and north-westerly Ontario; around Lake Superior and northerly to Lake Nipigon, and westerly to Point du Chein, Man. (*Macoun.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) In spruce and other swamps, from Morley westward through the Rocky Mountains to Donald, in the Columbia Valley; in swamps throughout northern British Columbia, 1875. (*Macoun.*) Fort Norman, Mackenzie River; Rocky Mountains. (*Hooker, Fl.*)

(2628.) **C. granularis,** Muhl. (1806); Hook., Fl. II., 226.
C. chlalaros, Steud. Cyper. Plant, 231, (1855.)
C. Haleana, Olney, Exsicc. III., 14, (1871.)

Abundant in wet meadows in Ontario; wet grounds, Bass River, Kent Co.; college grounds, Fredericton; and Sussex, N.B. (*Fowler, Cat.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Everywhere common around Prescott, Ont. (*Billings.*) Very abundant in low wet meadows and thickets throughout central Ontario; meadows, Owen Sound; along the Kaministiqua, at Fort William, and twenty miles up that stream; Blackwater River, Lake Nipigon. (*Macoun.*) Swamp, London, Ont. (*Burgess. Millman.*) Damp prairies, from Winnipeg west to Brandon, Man. (*Macoun.*) Quebec. (*Hooker, Fl.*)

(2629.) **C. Crawei,** Dew.; Torr. Bot. N. York II., 408, (1843.)
C. heterostachya, Torr. Sill. Journ. (2d. Ser.) II., 248, (1846.)
C. Crawei, var. *heterostachya*, Dew. Sill. Journ. (2d. Ser.) XLII., 4, (1866.)

Wet gravel, South West Point, Anticosti. (*Macoun.*) Shore of St. Lawrence, Montreal. (*C. F. McCrea.*) Field near Fort Wellington, Prescott, Ont. (*Billings.*) Wet gravel, Massassaga Point, near Belleville, Ont.; on wet sand, Presqu'ile Point, Lake Ontario; on wet sand at Owen Sound, and in marshy ground, Red Bay, Lake Huron; wet gravel, Assiniboine Rapids, east of Brandon, Man. (*Macoun.*)

(2630.) **C. Torreyi,** Tuckerman, Enum. Meth. 21, (1843.)
C. pallescens, Hook., Fl. II., 226, (1840.)
C. abbreviata, Boott, Linn. Trans. XX., 141, (1845.)

Abundant in many parts of western Manitoba, growing in clumps,

and having the general appearance of *C. pallescens*, but easily distinguished by its strongly nerved perigynium. Specimens from Portage la Prairie, Totogan, Grand Valley, Brandon, and File Hills, Man. (*Macoun.*) Souris River, and Turtle Mountain, Man. (*Burgess. Millman.*) Carleton House, on the Saskatchewan. (*Hooker, Fl.*)

(2631.) **C. pallescens,** Linn. Sp. Pl. 977, (1753.)

C. undulata, Kunze, Suppl. Riedgr. 23.
C. pallescens, var. *undulata*, Gray, Man. Ed. V., 587, (1868.)

Quite common in damp meadows at Truro, Halifax, and Annapolis, N.S. (*Macoun & Burgess.*) Pictou Co., N.S. (*McKay.*) Bass River, Kent Co.; Aroostook Falls, and Carleton Co., N.B. (*Fowler, Cat.*) Dalhousie, N.B.; and Ottawa, Ont. (*Fletcher.*) Meadows, Gaspé Basin, Gaspé Co., Q.; very abundant in meadows in the rear of St. Mary's Village, Sault Ste. Marie. (*Macoun*)

(2632.) **C. conoidea,** Schkuhr. Riedgr. Nachtr. 67, (1806); Pursh, Fl. I., 43, (1814); Hook., Fl. II., 226.

C. granularioides, Schweinitz, An. Tab. (1823.)
C. tetanica, Schwein. & Torr., Cyp. 347, (1836.)
C. Illinœnsis, Dew. Sill. Journ., (2d. Ser.) VI., 245, (1848.)

Damp meadows at Annapolis, and Halifax, N.S. (*Macoun & Burgess.*) St. Stephen, N.B. (*Vroom.*) Belleisle, N.B. (*Brittain.*) Wet meadows, close to the Ferry House, opposite Belleville, Ont., and in pastures east of that city. (*Macoun.*)

(2633.) **C. grisea,** Wahl. Köngl. Acad. Handl. XXIV., 154, (1802.)

C. laxiflora, Schkuhr, Riedgr. Nachtr. 69, (1805.)
C. grisea, var. *minor*, Olney, Hall's Pl. Tex. 26, (1873.)

Apparently rare in Canada, only observed in south-western Ontario. Damp thickets, Port Dover Junction, Elgin Co., Ont. (*Macoun.*)

(2634.) **C. oligocarpa,** Schkuhr, Riedgr. Nachtr. 67, (1805.)

C. subuniflora, Steud. Cyper. Plant, 234, (1855.)
C. oligocarpa, var. *Sartwelliana*, Dew. Sill. Journ. (2d. Ser.) V., 176, (1848.)

Not rare on exposed, grassy hillsides, near the shores of Lakes Ontario and Erie; rocky hill near Picton, Prince Edward Co.; open woods, above Port Hope, Ont; also along Lake Erie, near Fingal, Ont. (*Macoun.*) Vicinity of Ottawa; rare. (*Fletcher, Fl. Ott.*) Belleisle, and Petitcodiac; Long Island, in the Kennebeccasis, N.B. (*Brittain.*) It is probable that all Brittain's specimens are *C. conoidea*, as those gathered at Belleisle, now in our herbarium, are of that species. (*Macoun.*)

(2635.) **C. Hitchcockiana,** Dew. Sill. Journ. X. 274, (1826.)

C. oligocarpa, var. *major,* Torr. Bot. N. York II., 406, (1843.)

Rocky woods, apparently rare in Ontario, but more northern than the preceding species. Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) In half cleared lands, Kennebec, Addington Co.; Huntingdon, Hastings Co.; and Seymour, Northumberland Co., Ont.; Port Stanley, and Fingal, Elgin Co., Ont. (*Macoun.*)

(2636.) **C. laxiflora,** Lamarck, Dict. de Bot. III., 392, (1789); Hook., Fl. II., 226.

C. striatula, Michx., Fl. I., 173, (1803.)
C. anceps, Schwein. & Torr. Car. Mon. 343, in part, (1824.)
C. ignota, Dew. Sill. Journ. VIII., 348, (1849.)

As many collectors have not separated the varieties from each other, we place all references under the species, except where we have seen the specimens, or they have been separated by the collector. Newfoundland. (*Reeks.*) Several varities and forms of this exceedingly variable plant are found, but they have not been worked out. (*Fowler, Cat.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Damp woods at Belleville, Ont.; also Amherstburgh, Lake Erie. (*Macoun.*) Woods near Hamilton, Ont. (*Logie.*) Neighborhood of London, Ont. (*Burgess. Millman.*) Quite common at Prescott, Ont. (*Billings.*)

Var. **intermedia,** Boott, Ill. 37.

C. heterosperma, Wahl. Köngl. Acad. Handl. XXIV., 151, (1802.)
C. anceps, Muhl.; Hook., Fl. II., 226, (1840.)
C. anceps, var. *angustifolia,* Dew., Wood's Bot. 423, (1845.)
C. laxiflora, var. *blanda gracillima,* Boott, Ill. 38.

Apparently our commonest form. Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Common in open woods, from Carleton Place westward through central Ontario to Amherstburgh, on Lake Erie, and northwesterly to Red Rock, Lake Superior. (*Macoun.*) Vicinity of London, Ont. (*Burgess. Millman.*) Canada to Carleton House, on the Saskatchewan. (*Hooker, Fl.*)

Var. **striatula,** Carey, Gray, Man. Ed. II., 524, (1856.)

C. conoidea, Muhl. Descr. Gram. 248, (1817.)
C. blanda, Dew. Sill. Journ. X., 45, (1826.)
C. anceps, var. *striatula,* Carey, Gray, Man. Ed. I., 554, (1848.)
C. anceps, var. *blanda,* Hook., Fl. II., 226, (1840.)

Not nearly so common as the preceding. Apparently more southern in its range. Newfoundland. (*La Pylaie.*) Stewart's Bush, and Billings Bridge, Ottawa. (*Fletcher, Fl. Ott.*) Not common in woods at Belleville, Ont.; Queenston Heights, near Niagara Falls. (*Macoun.*) Low woods, London, Ont. (*Burgess. Millman.*)

Var. **atifolia,** Boott. II. 38.

Rich woods, Salisbury Junction, C. P. Ry., Ont.; common in woods around Belleville, and westward through central Ontario to Port Stanley, and Amherstburgh, on Lake Erie. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Grassy woods, London, Ont. (*Burgess, Millman.*) Hull, near Ottawa. (*Fletcher, Fl. Ott.*)

Var. **patulifolia,** Carey, Gray, Man. Ed. II., 524, (1856.

C. plantaginea, Schkuhr. Riedgr. Nachtr. 65. (1805.)
C. aurea, var. *patulifolia*, Dew. Wood's Bot. 423, (1845.)
C. laxiflora, var. *plantaginea*, Boott. II. 37.

Only found on McNab's Island, in Halifax Harbor. Easily distinguished from var. *latifolia* by the almost total absence of nerves and nearly straight beak of the perigynium. (*Macoun.*)

(2637.) **C. Hendersoni,** Bailey, Carex, Syn. 115, (1856.)

C. laxiflora, var. *plantaginea*, Olney, Proced. Am. Acad. (1872.

Easily distinguished from any form of *C. laxiflora* by its very large perigynium. The western representative of the *Laxiflorae*. Lower Fraser River, lat. 49°. (*Dr. Lyall.*) Not uncommon in open woods at Nanaimo, Qualicum, and Alberni, Vancouver Island. (*Macoun.*)

(2638.) **C. retrocurva,** Dew., Wood's Bot. 423, (1845.)

Apparently rare in Canada. Vicinity of Hamilton, Ont. (*Logie.*) Grassy woods at Amherstburgh, Lake Erie. (*Macoun.*) Border of a ravine at London, Ont. (*Burgess, Millman.*)

(2639.) **C. digitalis,** Willd. Sp. Pl. IV., 298, (1805.)

C. digocarpa, Hook., Fl. II., 226, 1840.)
C. Van-Vleckii, Schweinitz, An. Tab. (1823.)
C. podostachys, Steud. Cyper. Plant. 232, (1855.)

Open grassy woods and borders of ravines at Port Stanley, Elgin Co., and on Queenstown Heights, near Niagara; in a field near the Big Swamp, Murray, Northumberland Co., and in woods, Tudor, Hastings Co., Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*)

(2640.) **C. platyphylla,** Carey, Sill. Journ. (2d. Ser.) IV., 23, (1847.)

Open grassy woods, not rare in Ontario. Near Montreal. (*C. F. McCrea.*) King's Mountain, Chelsea, Q. (*Fletcher, Fl. Ott.*) Rich, rocky woods, common around Belleville, and westward through central Ontario to Owen Sound, Georgian Bay. (*Macoun.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Vicinity of Hamilton, Ont. (*Logie.*)

(2641.) **C. plantaginea,** Lamarck, Dict. de Bot. III., 392, (1789); Hook., Fl. II., 226; Michx., Fl., I., 173; Pursh, Fl. I., 42.

C. latifolia, Wahl. Köngl. Acad. Handl. XXIV., 156, (1802.)

On the slopes of ravines, and in cool woods throughout Ontario. St. John River, between Florenceville and Andover, N.B. (*Brittain.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Miriwin's Woods, near Prescott, Ont. (*Billings.*) Abundant in ravines at Belleville, and westward throughout Ontario to Owen Sound, Georgian Bay. (*Macoun.*) Grand Island, Georgian Bay. (*R. Bell.*) Low woods, London, Ont. (*Burgess. Millman.*) Norway House, north end of Lake Winnipeg. (*Hooker, Fl.*)

(2642.) **C. eburnea,** Boott, Hook., Fl. II., 226, (1840.)

C. alba, Dew. Sill. Journ. VII., 266, (1824.)

C. alba, var. *setifolia,* Dew. Sill. Journ. XI., 316, (1826.)

C. paupercula, Torr. Cyp. 415, (1836), (non Michx.)

Not uncommon on dry limestone shingle, along rivers and lakes. Tobique Narrows, N.B. (*Brittain.*) Dry rocks, Rivière de Brig, Anticosti. (*Macoun.*) Mingan River, Q. (*St. Cyr.*) Common in all rocky woods, Ottawa. (*Fletcher, Fl. Ott.*) On rocky banks of the Moira, at Belleville; banks of Trent, above Trenton, and westward throughout north-western Ontario, on rocky banks, to Port Arthur, Thunder Bay. (*Macoun.*) River banks, London, Ont. (*Burgess. Millman.*) Point aux Pins, Lake Erie; and Saugeen, Lake Huron. (*Burgess.*) Point Wilkins, Lake Winnipegoosis, Man.; rather rare on gravelly banks, from Morley westward through the Rocky Mountains to Donald, in the Columbia Valley, B.C. (*Macoun.*) Cedar Lake, near Cumberland House; Fort Norman, on the Mackenzie River; and Rocky Mountains, lat. 54°–56°. (*Hooker, Fl.*)

(2643.) **C. pedunculata,** Muhl. (1805); Hook., Fl. II., 217.

Cool shady woods and in swamps. Petitcodiac, and Havelock; Red Bank, and Salmon River; St. Stephen; Nashwaaksis, N.B. (*Fowler, Cat.*) Woods at Salt Lake, and English Bay, Anticosti; in abundance, along the Gaspé coast, Q. (*Macoun.*) Island of Orleans. (*St. Cyr.*) In a swamp, half way between Montreal and the Recollet Swamp. (*C. F. McCrea.*) Between Gate and St. Jean lakes, Wentworth, Argenteuil Co., Q. (*D'Urban.*) Very common in damp woods, Ottawa. (*Fletcher, Fl. Ott.*) Miriwin's Wood's, near Prescott, Ont. (*Billings.*) Carleton Place, and westward through Ontario to the west side of Lake Superior, at Point Meuron, Kaministiqua River. (*Macoun.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Vicinity of Hamilton, Ont. (*Logie.*) Damp woods, London, Ont. (*Burgess. Millman.*) Cum-

berland House, and Norway House, and Rocky Mountains. (*Hooker, Fl.*) Rainy Lake, and Winnipeg River. (*Richardson.*)

‡‡ *Perigynium pubescent.*

(2644.) **C. concinna,** R. Br. (1823); Hook., Fl. II., 223.

C. ornithopoda, Torr. Cyp., 412, (1836.)

Lake Mistassini, N.E.T. (*J. M. Macoun.*) Ste. Geneviève Island, Q. (*St. Cyr.*) Shores of Lake Nipigon, Ont.; amongst rocks at Manitoba House, Lake Manitoba, Pipestone Creek, Man.; common from Morley westward through the Rocky Mountains to Roger's Pass, Selkirk Mountains; Cache Creek, and Clinton, and northward to McLeod's Lake lat. 55°, B.C. (*Macoun.*) Cumberland House, on the Saskatchewan, to Mackenzie River; Rocky Mountains. (*Hooker, Fl.*)

(2645.) **C. melanocarpa,** Chamisso; Bailey, Carex, Syn. 120, (1886.)

St. Lawrence Island, off Alaska. (*Rothr. Alask.*)

(2646.) **C. Richardsoni,** R. Br. (1823); Hook., Fl. II., 223.

Newfoundland. (*Reeks.*) Dry thickets east of Belleville; also near Canniffton, and a little, east of the railway bridge, Trenton, Hastings Co., Ont.; on dry grassy hillsides around Morley, and westward through the Rocky Mountains to Donald in the Columbia Valley, B.C.; mountain summit at Spence's Bridge, and along the Telegraph Trail, lat. 54°, B.C. (*Macoun.*) Norway House, and Cumberland House; Rocky Mountains, and North West coast. (*Hooker, Fl.*)

(2647.) **C. Pennsylvanica,** Lamarck, (1789); Hook., Fl. II., 223; Pursh, Fl. I., 40, (1814.)

C. marginata, Willd. Sp. Pl. IV., 261, (1805.)
C. lucorum, Willd. Hort. Berol. Suppl. 63, (1809.)

Dry knolls in woods between Richibucto and Molus River; not rare at Salmon River, N.B. (*Fowler, Cat.*) St. Stephen, N.B. (*Vroom.*) Petitcodiac, N.B. (*Brittain.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Chalk River, Renfrew Co., and westward throughout Ontario in open woods to Owen Sound on the Georgian Bay. (*Macoun.*) Common in woods at Prescott, Ont. (*Billings.*) Vicinity of Hamilton, Ont. (*Logie.*) Komoka, Ont. (*Burgess.*) London, Ont.; Emerson, Man. (*Burgess. Millman.*) Saskatchewan River, at Cumberland House, and at Lake Winnipeg. (*Richardson.*) Souris Valley, Man. (*Dawson.*) Abundant in thickets throughout Manitoba and westward on the open prairie; rather common on dry slopes at Morley and extending west-

ward in the Rocky Mountains to Canmore; not uncommon in dry thickets at Yale, B.C.; grassy woods at Cedar Hill, and throughout the southern part of Vancouver Island to Qualicum. (*Macoun.*) Vicinity of Victoria, Vancouver Island. (*Fletcher.*) British America to the Rocky Mountains. (*Hooker, Fl.*) The west coast specimens have much darker scales, and in most cases the lower spikelet is subtended by a green bract.

(2648.) **C. varia,** Muhl. (1806); Hook., Fl. II., 223; Pursh, Fl. I., 40, (1814.)

C. varia, var. *pedicillata*, Dew. Sill. Journ. XI., 163, (1827.)
C collecta, Dew. Sill. Journ. XI., 314. (1827.)
C. Pennsylvanica, var. *Muhlenbergii*, Gray, Gram. & Cypr. 410, (1836.)
C. Pennsylvanica, Torr. Cyp. 410, (1836.)
C. varia, var. *minor*, Boott, Ill. 97.

Rather common in woods at Truro, Annapolis, and Canso, N.S. (*Macoun.*) Halifax, and Pirate's Cove, N.S. (*Burgess.*) Dry knolls in woods at Bass River, and at Fredericton Junction; rather common at Salmon River, N.B. (*Fowler, Cat.*) Plains of Abraham, Q. (*St. Cyr.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Common at Prescott, Ont. (*Billings.*) Rocky ravines, Gibson's Mountain, and Picton, Prince Edward Co.; Shannonville, and Trenton, Hastings Co., and westward to Owen Sound, and seven miles up the Kaministiqua, west side of Lake Superior. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Woods, London, Ont. (*Burgess. Millman.*) British America. (*Hooker, Fl.*)

(2649.) **C. Emmonsii,** Dew.; Torr. Cyp. 411, (1836.)

C. alpestris, Dew. Sill. Journ. VII., 268, (1824.)
C. Darisii, Dew. Sill. Journ. X., 279, (1826.)
C. Novæ-Angliæ, var. *Emmonsii*, Carey, Gray, Man. Ed. I., 556, (1848.)
C. leucorum, var. *Emmonsii*, Chapm. Flora, 539, (1860.)
C. Emmonsii, var. *elliptica*, Boott, Ill. 97.
C. varia, var. *minor*, Hook., Fl. II., 223, (1840.)

McNab's Island, Halifax Harbor, and Windsor, N.S. (*Macoun.*) Dry bank near the Manse, Blackville; Petitcodiac; Salmon River, N.B. (*Fowler, Cat.*) St. John, N.B. (*Burgess.*) Montreal Mountain. (*C. F. McCrea.*) King's Mountain, near Chelsea, Q.; and at Rockcliffe, Ottawa. (*Fletcher, Fl. Ott.*) Chalk River, Renfrew Co., and westward throughout Ontario to Lake Erie, at Port Stanley; and northwesterly to Lake Nipigon, north of Lake Superior. (*Macoun.*) Rocky woodlands, west of Brockville, Ont. (*Billings.*) Vicinity of Hamilton, Ont. (*Logie.*) Woods, London, Ont. (*Burgess. Millman.*) Quesnel, and McLeod's Lake, lat. 55°, northern British Columbia. (*Macoun.*) British America to Rocky Mountains. (*Hooker, Fl.*)

(2650.) **C. Novæ-Angliæ,** Schweinitz, An. Tab. (1823.)

Rather more northern in its range than *C. Emmonsii*, and often very like it in general appearance, the purple-margined scale not always being a sure guide. Damp woods, Truro; Point Pleasant, and McNab's Island, Halifax Harbor, N.S. (*Macoun & Burgess.*) Rocky points, Gaspé coast, Q. (*Macoun.*) St. John, Petitcodiac, and Chipman, N.B. (*Fowler, Cat.*) Sudbury Junction, northern Ontario, and on rocks ten miles south of Fort William, Lake Superior; Telegraph Trail, lat. 54°, B.C.; summit of Mount Arrowsmith, Vancouver Island, alt. 5,500 feet. (*Macoun.*) Lake Lindeman, Lewes River. (*Schwatka.*) Arctic seacoast, and Methy Portage. (*Richardson.*)

Var. **deflexa,** Bailey, Carex, Syn. 124, (1886.)

The specimens referred here are distinguished from the species by the deflexed beak of the perigynium, which has also a purple spot on the inside of the bend. Sheaths reticulated at the base. Grassy thickets, McLeod's Lake, lat. 55°, northern British Columbia. (*Macoun.*)

Var. **Rossii,** Bailey, Bot. Gaz. X., 207, (1885.)

C. Rossii, Boott, Hook., Fl. II., 222, (1840.)

On elevated snow-slides, and grassy margins of thickets, from Castle Mountain to Hector, Rocky Mountains; Yale Mountain, B.C.; rocky fields at Cedar Hill, Gordon Head, Horne Lake, and Nanaimo, Vancouver Island. (*Macoun.*) Rocky Mountains, and North West coast. (*Hooker, Fl.*) Telegraph Creek, lat. 58°, B.C. (*Dawson.*)

(2651.) **C. umbellata,** Schk. (1801); Pursh, Fl. I., 44; Hook., Fl. II., 222.

C. umbellata, var. *vicina*, Dew. Sill. Journ. XI., 317, (1826.)

Not uncommon, chiefly on sandy soil, from the Atlantic to the Pacific. Hillsides at Truro, and on rocks and sand, Point Pleasant, Halifax, N.S. (*Macoun & Burgess.*) Rocky ground, near the Manse at Blackville; Red Bank, and Petitcodiac, N.B. (*Fowler, Cat.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Sand hills, Chalk River, Renfrew Co.; Oak Hills, Hastings Co.; on rocks at Otter Head, Lake Superior; near Lake Ellen, Nipigon River. (*Macoun.*) British America to Rocky Mountains. (*Hooker, Fl.*) Lakes Superior and Huron; Methy Portage, and at Forts Chipweyan and Simpson. (*Richardson.*)

Var. **brevirostris,** Boott, Ill. 99.

C. globosa, W. Boott, Bot. Calif. II., 246, in part, (1880.)

Rather common in tufts on rocky banks, from Morley westward in the Rocky Mountains to Castle Mountain; dry slopes at Yale, and Jackass Mountain, B.C. (*Macoun.*)

(2652.) **C. pubescens,** Muhl. (1805); Pursh, Fl. I., 42; Hook., Fl. II., 223.

Meadows, and borders of moist woods. Newfoundland. (*Reeks.*) Petitcodiac, N. B. (*Fowler, Cat.*) Stewart's Bush, near Ottawa. (*Fletcher, Fl. Ott.*) Rather rare near Prescott, Ont. (*Billings.*) Meadows between Belleville and Trenton, Hastings Co.; near Wooler, Northumberland Co., Ont. (*Macoun.*) Rich low woods, London, Ont. (*Burgess. Millman.*)

‡ ‡ *Beak of perigynium more or less elongated.*
* *Beak emarginate or obliquely truncate.*

(2653.) **C. scabrata,** Schweinitz, An. Tab. (1823); Hook., Fl. II., 222.

Wet meadows and around springs at Annapolis, and Windsor, N.S. (*Macoun.*) Wet grounds, Bass River, Kent Co.; Norton, and Campbellton, N.B. (*Fowler, Cat.*) Nepisiquit Lake, N.B. (*Hay.*) Near Quebec. (*Cleghorn.*) Borders of springs in woods and swamps at Brighton, and Port Hope, Ont.; Jones Falls, Owen Sound, and at Port Stanley, Lake Erie. (*Macoun.*) Near London, Ont. (*Burgess.*) Vicinity of Hamilton, Ont. (*Logie.*)

(2654.) **C. arctata,** Boott, Hook., Fl. II., 227, (1840.)
C. sylvatica, Dew. Sill. Journ. X., 40, (1826.)

Abundant in meadows and thickets, and in open forest. Margin of dry woods beside the Manse, Bass River, Kent Co.; rather common at Salmon River; St. John and various places in Wesmoreland Co., N.B. (*Fowler, Cat.*) Island of Orleans, Q. (*St. Cyr.*) Sugar Bush Lake, Montcalm Co., Q. (*D'Urban.*) St. Andrews, near Montreal. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Quite common in dry woods at Belleville, Ont., at Grafton and Queenston Heights, and westward to London, Ont. (*Macoun.*)

Var. **Faxoni,** Bailey, Coult. Bot. Gaz. XIII., 87.

Spikes shorter than in the species, usually short-peduncled, erect or nearly so, much more densely flowered, part of them usually contiguous at the top of the culm, rendering the shorter staminate spike inconspicuous; perigynium usually much larger. (*Bailey.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Common at Belleville, and westward through the northern part of Ontario to Nipigon River, north of Lake Superior and south-west to Kakabeka Falls, west of that lake. This is evidently the northern form, and is quite distinct in appearance from the species. Many of the eastern references very likely belong here. (*Macoun.*)

C. arctata x flexilis, Bailey.

C. Knieskernii, Dew. Sill. Journ. 2d. Ser. II., 247, (1846.)

I agree with Prof. Bailey in believing that this is a hybrid between *C. arctata* and *C. flexilis.* Where I gathered the specimens at Kakabeka Falls, on the Kaministiqua, thirty miles from Fort William, Lake Superior, both of these species were found growing in profusion. Specimens of *C. flexilis,* sent from Tobique Lake, N.B., by Wetmore, contained a fine clump of *C. Knieskernii.* It is just possible that after all it is a lax form of *C. flexilis,* as it certainly approaches that species very closely.

(2655.) **C. flexilis,** Rudge, Linn. Trans. VII., 98, (1804.)

C. blepharophora, Gray, Ann. N. Y. Lyc. III., 237, (1836.)

Newfoundland. (*Rudge.*) Near Weldford Station; Red Bank Creek, and Tobique River; common at Petitcodiac, N.B. (*Fowler, Cat.*) Jupiter River, Anticosti; Falls of Ste. Anne des Monts, Gaspé Co., Q. (*Macoun.*) Dartmouth River, Gaspé Basin, Gaspé Co., Q. (*J. Bell.*) Red Bay, Lake Huron; Nipigon House, Lake Nipigon; abundant at Kakabeka Falls, at Current River, and Otter Head, Lake Superior. (*Macoun.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*)

(2656.) **C. Assiniboinensis,** W. Boott, Bot. Gaz. IX., 91, (1884.)

A very beautiful and distinct species well described by Boott. Perigynium few-ribbed towards the base, hairy, gradually contracted into a very long slender beak, which is white and membranous at the tip; scale white, awl-shaped, the lower ones awned and longer than the perigynium, the others about the same length. In thickets at the Assiniboine Rapids, east of Brandon, and in the Grand Valley, leading to Rapid City, 1879; on a dry limestone point at the "Narrows" of Lake Manitoba, Man., 1881. (*Macoun.*) Griswold, Man. (*Rev. W. A. Burman.*)

(2657.) **C. longirostris,** Torrey, Schweinitz, An. Tab. (1823.)

C. Sprengelii, Dew.; Spreng. Sys. Veg. III., 827, (1826.)

C. longirostris, var. *minor,* Boott, Phila. Acad. Sc. 78, (1863.)

C. longirostris, var. *microcystis,* Bœckeler, Linnæa, XLI., 241, (1877.)

Growing in large tufts sparingly on rocky ledges or in thickets. Andover, and Sussex, N.B. (*Fowler, Cat.*) Ledges, King's Mountain, near Chelsea, Q.; abundant in a coppice at Hemlock Lake, New Edinburgh, Ottawa. (*Fletcher, Fl. Ott.*) On Gibson's Mountain, Prince Edward Co.; on the "Big Boulder," Trent Talley, above Trenton, and on limestone ridges, Marmora, Hastings Co., Ont. (*Macoun.*) River bank, London, Ont. (*Burgess. Millman.*) Souris River, Man. (*Burgess.*)

Thickets, along the Kaministiqua, twenty miles above Fort William; rather common at Portage la Prairie and westward to Fort Ellice, in the Assiniboine Valley; rather uncommon on grassy slopes near the Bow River, at Morley, Alberta. (*Macoun.*) Carleton House to Rocky Mountains. (*Hooker, Fl.*)

(2658.) **C. Saskatchewana,** Bœckeler, Linnæa, XLI., 159, (1876.)

This species has been described from young specimens collected by Douglas somewhere on the Saskatchewan. We have seen nothing to tally with the description, and can make no suggestion regarding its proper disposition. Bœckeler places it next to *C. vaginata,* and Bailey near *C. debilis.* Better specimens are much needed.

(2659.) **C. capillaris,** Linn. (1753); Hook., Fl. II., 227.

C. capillaris, var. *elongata,* Olney, Prel. Cat. Wheeler's Pl. 53.

Quite common on the rocky borders of northern lakes and streams. Newfoundland. (*La Pylaie.*) Bass River, Kent Co.; Edmonton, and Kennebeccasis Bay, N. B. (*Fowler, Cat.*) Boundary Lake, N. B. (*Pringle.*) Esquimaux Island, Mingan, Q. (*St. Cyr.*) Salt Lake, South West Point, and Ellis Bay, Anticosti; common on exposed points, Gaspé coast; very common around Lake Superior, and northward to Lake Nipigon. (*Macoun.*) Lake Mistassini, N.E.T.; The Twins, James Bay. (*J. M. Macoun.*) Michipicotin River, Ont. (*R. Bell.*) Assiniboine Rapids, east of Brandon, Man.; rather common on the margins of streams and ravines from Morley westward through the Rocky Mountains to Roger's Pass, summit of the Selkirk Mountains, B.C.; McLeod's Lake, lat. 55°, and Peace River Pass, lat. 56°, B.C. (*Macoun.*) Lowes River, lat. 62° north of British Columbia (*Dawson.*) Fort Norman, Bear Lake, and Rocky Mountains. (*Hooker, Fl.*) Ounalashka. (*Rothr. Alask.*) Greenland. (*Lange.*)

Var. **Krausei,** Krantz. (MSS.)

C. Krausei, Bœckeler, Engler's Bot. Jahrb. VII., 279, (1886.)

Dr. August Krantz, who has carefully examined the whole collections of Krause made in Alaska, writes me that Bœckeler's new species is only an androgynous form of *C. capillaris,* and suggests the above varietal name. Alaska. (*Krause.*)

(2660.) **C. obesa,** Allioni, var. **minor,** Boott, Ill. 161.

C. supina, Wahl. (1802); Hook., Fl. II., 225.

We know nothing of this species. None of our specimens are anything like it. Bear Lake, and Rocky Mountains. (*Hooker, Fl.*) Greenland. (*Lange.*)

* * *Beak bidentate.*
† *Perigynium smooth.*

(2661.) **C. fulva,** Good., Linn. Trans. II., 177, (1792); Hook., Fl. II., 225.

C. Greeniana, Dew. Sill. Journ. XXX., 61, (1836.)

Newfoundland. (*Goodenough.*) Specimens gathered at Ellis Bay, Anticosti, are referred here, and if correctly so, are certainly indigenous. The fertile spikes are usually two, the lower is long pedunculed, and the upper almost sessile; staminate spike also long pedunculed. Mr. Arthur Bennett, F.L.S., of England, has confirmed this identification.

(2662.) **C. riparia,** W. Curtis, Fl. Lond. IV., t. 60, (1792.)

C. lacustris, Willd. (1805); Pursh, Fl. I., 45; Hook., Fl. II., 227.

Newfoundland. (*Reeks.*) In water near Weldford Station, Bass River, Kent Co., N.B. (*Fowler, Cat.*) Sugar Bush Lake, Montcalm Co., Q. (*D'Urban.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Marshes, Bay of Quinte, and in wet meadows and marshes all over central Ontario, and westward to Red Bay, Lake Huron; marshes on Pelée Point, Lake Erie. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Common at London, Ont. (*Burgess. Millman.*) Swamps, Lake of the Woods. (*Burgess. Dawson.*) Lake Winnipeg, and Cumberland House. (*Hooker, Fl.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*)

† † *Perigynium hirsute.*

(2663.) **C. Houghtonii,** Torrey, Cyp. 413, (1836); Hook., Fl. II., 223.

A beautiful and distinct species found chiefly in the northern pine forests; on sandy or rocky knolls, where it creeps extensively. On ridges at Truro, N.S. (*Macoun & Burgess.*) Dry grassy places, Coal Branch, Kent Co.; Tobique River, at Pokiok, N.B. (*Fowler, Cat.*) Dry ridges, Gaspé coast, Q. (*Macoun.*) Rivière Ste. Marguerite, Q. (*Pringle.*) On a hill 1,500 feet high, at Tadousac, Q. (*A. T. Drummond.*) Vicinity of Ottawa; very rare. (*Fletcher, Fl. Ott.*) On rocky islands, Partridge Lake, and Gull Lake, Addington Co.; abundant in new meadows in Tudor, Madoc, and Marmora, Hastings Co.; Elliott's Falls, Gull River, Victoria Co.; very common in the woods all around Lake Superior, especially about Port Arthur; common at Lake Nipigon, north of Lake Superior. (*Macoun.*) Michipicotin River, Ont. (*R. Bell.*) Woods west of Edmonton, lat. 54°, N.W.T. (*Macoun.*) Methy Portage, lat. 57°. (*Richardson.*) Hudson Bay to Cumberland House, on the Saskatchewan. (*Hooker, Fl.*)

(2664.) **C. filiformis,** Linn. (1753); Hook., Fl. II., 223.

Peat bogs, and wet marshy meadows. Newfoundland. (*Reeks.*) Lighthouse Point, Yarmouth, N.S. (*Macoun.*) Elsie, near Richibucto; Arthurette, N.B. (*Fowler, Cat.*) At Jupiter River, and English Bay, Anticosti; near Point Fame Lighthouse, Gaspé coast, Q. (*Macoun.*) Ste. Helen's Island, Montreal. (*C. F. McCrea.*) Marsh near Ottawa. (*Fletcher, Fl. Ott.*) Marsh west of Prescott Junction, Ont. (*Billings.*) Beaver meadows and marshes, North Hastings, Ont.; marshes, Bruce Peninsula, Ont.; Lake Hannah, Nipigon River. and along the Kaministiqua, near Fort William; also on Livingstone Point, Lake Nipigon. (*Macoun.*) Swampy ground, London, Ont. (*Burgess. Millman.*) Common in the Columbia Valley, at Donald, and westward up Beaver Creek Valley, Selkirk Mountains; Westwood's Swamp, near Nanaimo, and in a marsh at Horne Lake, Vancouver Island. (*Macoun.*) Norway House to Cumberland House. (*Hooker, Fl.*)

(2665.) **C. lanuginosa,** Michx., Fl. I., 175, (1803); Hook., Fl. II., 223.

C. pellita, Muhl. (1805); Pursh, Fl. I., 44.

C. filiformis, var. *lanuginosa,* Bœck.; Bailey, Carex, Syn. 74, (1886.)

Wet meadows and marshes, never in bogs; extending from the Atlantic to the Pacific. Pictou, N.S. (*McKay.*) Moncton, and Petitcodiac; Edmunton, N.B. (*Fowler, Cat.*) Lower Tobique River, N.B. (*Brittain.*) Salt Lake, and Jupiter River, Anticosti; Grand Vallée, Gaspé coast, Q. (*Macoun.*) West of St. Sauveur, Quebec city. (*St. Cyr.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Wet meadows, near the junction at Prescott, Ont. (*Billings.*) Very common in wet meadows throughout central Ontario and westward to Lake Huron at Red Bay, also north-westerly around Lake Nipigon, and south to the Kaministiqua, near Port Arthur. (*Macoun.*) Meadows at Kingston, Ont. (*Millman.*) Vicinity of London, Ont. (*Burgess.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Saskatchewan River to Methy Portage, lat. 57°. (*Richardson.*) Very abundant in marshy meadows, throughout the prairie region and extending north to Lake Athabasca, in lat. 59°, and south to lat. 49°, and westerly by Morley through the Rocky Mountains to Donald in the Columbia Valley; meadows near Victoria, Vancouver Island. (*Macoun.*) Cadboro Bay, Vancouver Island. (*Fletcher.*) Lake Mistassini; Canada to Mackenzie River. (*Hooker, Fl.*)

Var. **æmathorhyncha,**

C. æmathorhyncha, Olney, Bot. King's Exp. V., 373, (1871.)

C. filiformis, var. *æmathorhyncha,* W. Boott, Bot. Calif. II., 250, (1880.)

C. filiformis, var. *latifolia,* Bailey, Carex, Syn. 74, (1886.)

We have kept *C. lanuginosa* distinct from *C. filiformis,* because they

differ sufficiently in habit and general character to constitute good species. At present species in America are, in general, too ill-defined, and it is the opinion of the writer that all permanent forms should be described, and specific distinctions placed on record, so that future workers may have less difficulty in working up the plants of any region than has been experienced by me in elaborating the flora of Canada. Specimens referred here were collected at Vancouver city, on Burrard Inlet, by Prof. Fowler. They agree precisely with Mr. W. Boott's description, and specimens distributed by Suksdorf.

* * * *Perigynium long-beaked, inflated and bicuspidate.*
† *Perigynium smooth.*
‡ *Lupulinæ, Bailey, Carex, Syn.* 61.

(2666.) **C. subulata,** Michx. (1803); Pursh, Fl. I., 40; Hook., Fl. II., 221.

C. Collinsii, Nutt., Gen. N. Am. Pl. II., 205, (1818.)
C. Michauxii, Dew. Sill. Journ. X., 273, (1826.)

Deep cedar swamps, in *sphagnum.* Canada. (*Hooker, Fl.*) We have no Canadian specimens of this species. Collectors should look for it in Quebec and New Brunswick. The reflexed teeth of the perigynium and grass-like appearance of the whole plant distinguish it from the next, which grows in the same situations.

(2667.) **C. Michauxiana,** Bœeckeler, Linnæa, XLI., 336, (1877.)

C. rostrata, Michx., Fl. I., 173, (1803.)
C. xanthophysa, vars. *nana & minor,* Dew. Sill. Journ. XIV., 353, (1828.)
C. folliculata, Hook., Fl. II., 221, (1840.)

Peat bogs, Newfoundland. (*La Pylaie.*) Cold bog near Louisburg, Cape Breton. (*Macoun & Burgess.*) Bog at Rothesay; Lily Lake, and border of Clifton Lake, N.B. (*Fowler, Cat.*) Lake Mistassini, N.E.T. (*Hooker, Fl.*)

(2668.) **C. folliculata,** Linn. Sp. Plant, 978, (1753.)

C. xanthophysa, Wahl. Köngl. Acad. Handl. XXIV., 152, (1802.)

Peat bogs and marshes. Cold swamps, Newfoundland. (*Reeks.*) Marshes and wet ground in numerous places at Point Pleasant, and North West Arm, Halifax, N.S. (*Macoun & Burgess.*) Halifax, N.S. (*Sommers, Cat.*) Norton, and St. Martin's, N.B. (*Fowler, Cat.*) Eastman's Springs, near Ottawa. (*Fletcher, Fl. Ott.*) Port Cockburn, Lake Joseph, Muskoka, Ont. (*Burgess.*) Peat bog, Caledonia Springs, near Ottawa. (*C. F. McCrea.*)

(2669.) **C. intumescens,** Rudge, Linn. Trans. VII., 97. (1804); Hook., Fl. II., 221.

C. folliculata, Wahl. Köngl. Acad. Handl. XXIV., 152, (1802); Michx., Fl. I., 172, (1803); Pursh, Fl. I., 42, (1814.)

Swamps and marshy woods; common. Newfoundland. (*La Pylaie.*) Truro, and Annapolis, N.S. (*Macoun.*) Rather common in Pictou, and Guysboro Co's., N.S. (*McKay.*) Glenelg, Guysboro Co., N.S. (*Faribault.*) Rather common in Kent Co.; King's Co., and on St. John River, N.B. (*Fowler, Cat.*) Plains of Abraham, Quebec. (*St. Cyr.*) Sugar Bush Lake, Montcalm Co., Q. (*D'Urban.*) Woods near Buckingham, Q. (*Ami.*) St. Andrews, near Montreal. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Wet woods, common at Prescott, Ont. (*Billings.*) Very common in wet woods throughout central Ontario, and westward to Amherstburgh Lake Erie, and Owen Sound, Georgian Bay; also north-westerly to Lake Ellen, Nipigon River, and along the west shore of Lake Superior, and westward to Rainy Lake. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) London, Ont. (*Burgess. Millman.*) Canada to Norway House, north of Lake Winnipeg. *Hooker, Fl.*) Lake of the Woods, and Rainy Lake. (*Richardson.*)

(2670.) **C. Grayii,** Carey, Sill. Journ. IV., 22, (1847.)

C. intumescens, var. *globularis,* Gray, Ann. N. Y. Lyc. III., 236, (1836.)

Damp woods near Buckingham, Q.; very rare, collected by H. M. Ami. (*Fletcher, Fl. Ott.*) Abundant in wet grassy woods, Colchester, near Amherstburgh, Lake Erie. (*Macoun.*)

(2671.) **C. lurida,** Wahl. Köngl. Acad. Handl. XXIV., 153, (1802.)

C. lupulina, Muhl. (1805); Hook., Fl. II., 223; Macoun, Cat. No. 2118; Pursh, Fl. I., 41, (1814.)

C. Canadensis, Dew. Sill. Journ. XLI., 2d. Ser. 229, (1866.)

Abundant in tufts about ponds and in ditches in Ontario. Near Windsor, N.S. (*McGill Coll. Herb.*) Hampton, and Norton, N.B. (*Fowler, Cat.*) Tobique River, N.B. (*Hay.*) Halifax, N.S. (*Sommers, Cat.*) St. John, on the Richelieu River, Q. (*C. F. McCrea.*) Gatineau Point, Q.; and abundant in all low grounds at Ottawa, in various forms. (*Fletcher, Fl. Ott.*) Abundant at Prescott, Ont. (*Billings.*) Very common throughout central and western Ontario, extending to fifteen miles up the Kaministiqua, west of Lake Superior. (*Macoun.*) London, Ont.; Point aux Pins, Essex Co., Ont.; and Parry Sound, Georgian Bay. (*Burgess.*) Vicinity of Hamilton, Ont. (*Logie.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Hudson Bay. (*Hooker, Fl.*)

Var. **divergens,** Bailey, Carex, Syn. 63, (1886.)

C. Bella-villa, Dew. Sill. Journ. 2d. Ser. XLI., 229, (1866.)

"Plant more slender, spikes scattered or remote, oblong or cylindrical, much more loosely flowered, more or less staminate at the apex; perigynium more straw-colored, less turgid, slenderly beaked, diverging at right angles; scales longer, conspicuously awned." (*Bailey.*) Marshy meadows near Foxboro, six miles north of Belleville, Hastings Co., Ont. I believe, with Prof. Bailey, that this is a variety of *C. lurida*, but it cannot be a hybrid with *C. folliculata*, as that species has never been found within one hundred miles of the locality.

Var. **polystachya,** Bailey, Carex, Syn. 63, (1886.)

C. lupulina, var. *polystachya*, Schweinitz & Torr., Mon. Cyp. 337, (1825.)
C. lupuliformis, Sartwell, Exsicc. 147, (1848.)
C. Beyrichiana, Bœckeler, Linnæa, XLI., 239, (1877.)

In Hastings and Northumberland Co's., Ont., there are numerous forms of *C. lurida*, all of which have pedunculate and scattered spikes, and are very unlike typical *C. lurida*. One of these was named *C. Canadensis*, by Dewey, and the others referred to *C. lupulina*, var. *pedunculata*, and var. *gigantoidea*, Dewey. These are now placed under this form pending a better arrangement of the several varieties of this multiform species.

‡‡ *Vesicariæ, Bailey, Carex, Syn,* 64.

(2672.) **C. oligosperma,** Michx., Fl. I., 174, (1803); Hook., Fl. II. 220.

C. Oakesiana, Dew. Sill. Journ. XIV., 351, (1828.)

Peat and sphagnum swamps, rather rare. Labrador. (*Allen.*) In a peat bog near Richibucto, and at Madawaska, N.B. (*Fowler, Cat.*) Thunder River, Q. (*St. Cyr.*) Mer Bleue, near Ottawa. (*Fletcher, Fl. Ott.*) Abundant in bogs, Kiladar and Kennebec, Addington Co., and Tudor, Hastings Co., Ont.; One-mile Portage, Nipigon River, Lake Superior. (*Macoun.*) Lake Superior. (*Richardson.*) London; and Port Cockburn, Lake Joseph, Muskoka, Ont. (*Burgess.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) From Norway House, Lake Winnipeg, to English River, and Bear Lake, lat. 66°. (*Richardson.*) Peat bogs, Methy Portage, lat. 57°, where it is in abundance. (*Macoun.*)

(2673.) **C. Raeana,** Boott, Rich. Arc. Exped. II., 344, (1857.)

We have never seen specimens of this species except those of Prof. Fowler, from New Brunswick, and the younger specimens collected by Mr. C. E. Smith in northern Maine, and distributed by Olney and

Canby as *C. pulla*. Prof. Bailey, in his Carex Synopsis, page 66, seems to refer these specimens to *C. saxatilis*, var. (?) *miliaris*, but on the preceding page he evidently places the same specimens under this species. In the latter case I agree with him, as the Maine specimens are over two feet in height. He says, speaking of var. (?) *milliaris*: "very slender, six to sixteen inches high," which cuts out the Maine (immature) specimens altogether, and, in my opinion, Prof. Fowler's New Brunswick specimens also. It is just possible that *C. pulla*, Gray, Man. 602, and *C. Raeana*, are the same, and my tall Anticosti specimens of *C. rotundata*, and Prof. Porter's specimens from Maine, are *C. miliaris*, Michx. Specimens collected at Lake Mistassini, by Mr. J. M. Macoun, would also come in with *C. miliaris*. As it was at Lake Mistassini that Michaux obtained the specimens on which he founded the species, our view of the case may be the correct one. Wet shores Rothesay and on the opposite side of the Kennebeccasis River, N.B. (*Fower, Cat.*) Methy Portage, long. 110°, lat. 57°. (*Richardson.*) While on the Portage in September, 1875, I looked for this species, but brought away *C. oligosperma* instead of it.

(2674.) **C. miliaris,** Michx., Fl. I., 174, (1803); Pursh, Fl. I., 41; Hook., Fl. II., 224.

C. saxatilis, var. (?) *miliaris*, Bailey, Bot. Gaz. IX., 120, (1884.)

C. pulla, var. (?) *miliaris*, Gray, Man. Ed. V. 602, (1868.)

Lake Mistassini, N.E.T. (*Michaux. J. M. Macoun.*) Ungava Bay, Labrador, 1884. (*Turner* vide *Bailey.*) In wet gravel along Jupiter River, Anticosti, near its mouth, 1883. (*Macoun.*) The specimens from the above mentioned places are all alike, but those from Anticosti are much taller, and exactly match Prof. T. Porter's specimens from Moosehead Lake, Maine. The Canadian specimens have their sheaths more or less fibrous, and the perigynium a distinctly notched beak.

(2675.) **C. physocarpa,** Presl, Reliq. Hænk. I. 205, (1830.)

Abundant in the Bow River Valley, and along mountain streams up to 5,500 feet, and extending from Morley westward through the Rocky Mountains to Donald, in the Columbia Valley. (*Macoun.*) Rocky Mountains of British America. (*Drummond.*)

(2676.) **C. saxatilis,** Linn., Fl. Lapp. 259.

C. pulla, Good., Linn. Trans. III., 78, (1797.)

C. vesicaria, var. *alpigena*, Fries. Mant. II., 142.

Specimens collected on "The Twins," in James Bay, in July, 1887, by J. M. Macoun, are referred here by Mr. Bennett, who says they are identical with Norwegian specimens in his possession. (*Macoun.*) Greenland. (*Lange.*)

Var. (?) **Grahami,** Hook. & Arn., Brit. Fl., Ed. VIII., 510.

C. Grahami, Boott, Linn. Trans. XIX., 215, (1843.)
C. saxatilis, var. *major*, Olney, Bot. King's Exp. V., 370, (1871.)
C. saxatilis, Hook., Fl. II., 220, (1840.)

Rocky Mountains. (*Hooker, Fl.*)

(2677.) **C. compacta,** R. Br., Ross. Voy. App. page 143, (1823.)

C. membranacea, Hook., App. Parry's 2nd Voy., 406; Hook., Fl. II., 220
C. hymenocarpa, Drejer, Revis. Crit. Car. 58, (1841.)
C. ampullacea, var. *borealis*, Lange, Rink's, Grœnl. II., 118.
C. rotundata, Rothrock's Alaskan Pl. 457.

Arctic coast; Southampton Island; Duckett's Cove, North Somerset; Kotzebue Sound. (*Hooker, Fl.*) Baffin's Bay. (*R. Brown.*) Cape Chudleigh, Nottingham Island, and Eskimo village of Hyla, Hudson Straits. (*R. Bell.*) Bear Lake. (*Drummond* vide *Bailey*) Kotzebue Sound. (*Rothr. Alask.*) On the coast of Hudson Bay, between Fort Churchill and Cape Lady Pelly. (*Dr. Rae.*) Arctic sea-coast. (*Richardson.*)

(2678.) **C. rotundata,** Wahl. Fl. Lapp. 235, (1812); Hook., Fl. II., 220.

Arctic America; Slave Lake, and Fort Enterprise. (*Hooker, Fl.*) Specimens from Ungava Bay, northern Labrador (*Turner*, 1884), are evidently this species. (*Bailey.*) North Twin Island, James Bay, 1887. (*J. M. Macoun.*)

(2679.) **C. rostrata,** Withering, Arrang. Brit. Pl., Ed. II., (1790.)

C. vesicaria, Pursh, Fl. I., 45, (1814.)
C. obtusangula, Ehrh. Calam. Exs., No. 50, (1791.)
C. ampullacea, Good., Linn. Trans. II., 207, (1792.)

Bog North Sydney, Cape Breton. (*Macoun & Burgess.*) Table Top Mountain, Gaspé, Q. (*Porter.*) Six miles up Becscie River, Anticosti; Lake Nipigon, Ont.; common along the tributaries of the Saskatchewan, and north to Methy Portage, lat. 57°; valley of Bow River, at Calgary, and westward through the Rocky Mountains, to the Columbia Valley, where it is common. (*Macoun.*) Cumberland House, English River, and Bear Lake. (*Hooker, Fl.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) Churchill River, Keewatin. (*R. Bell.*) Near Pincher Creek, Rocky Mountains. (*Dawson.*) Vancouver city, Burrard Inlet, B.C. (*Prof. Fowler.*) Common in marshes near Cedar Hill, and at Nanaimo, and Alberni, Vancouver Island. (*Macoun.*) Lake, six miles from Victoria, and Mount Finlayson, Vancouver Island. (*Fletcher.*)

Var. **utriculata,** Bailey, Carex, Syn. 67, (1886.)
C. utriculata, Boott, Hook., Fl. II., 221, (1840.)
C. utriculata, var. *minor,* Boott, Hook., Fl. II., 221, (1840.)
C. ampullacea, var. *utriculata,* Carey, Gray, Man. 566, (1848.)
C. utriculata, var. *globosa,* Olney, Bot. King's Exp. V., 374, (1871.)

A very common *Carex* in marshes and by streams from the Atlantic to the Pacific. In bogs at Truro, and Windsor, N.S.; and at North Sydney Cape Breton. (*Macoun & Burgess.*) Magdalen Islands, Gulf of St. Lawrence. (*J. Richardson.*) Pictou Co., N.S. (*McKay.*) Swampy places, Bass River, Fredericton, and Norton, N.B. (*Fowler, Cat.*) Point Sechè, Gaspé coast, Q. (*Macoun.*) St. Sauveur, Quebec city. (*St. Cyr.*) River Richelieu, at Dorchester, Q. (*C. F. McCrea.*) Mer Bleue, near Ottawa. (*Fletcher, Fl. Ott.*) Very common in marshes and swamps throughout central Ontario, and westward to Owen Sound, Georgian Bay; and north-westerly to Nipigon River, at Red Rock, and west to Lake of the Woods. (*Macoun.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Red River prairie, and Souris Valley, Man. (*Dawson.*) Canada to Rocky Mountains. (*Hooker, Fl.*) Marshes along the various streams in the prairie region, and west to Calgary, on the Bow River. (*Macoun.*) Lakes Superior and Huron, and Methy Portage. (*Richardson.*)

(2680.) **C. monile,** Tuckerman, Enum. Meth. 20, (1843.)
C. Vaseyi, Dew. Sill. Journ. 2d. Ser. XXIX., 347, (1860.)

Not uncommon in ditches and along streams. Glenelg, Guysboro Co., N.S. (*Faribault.*) Pictou, N.S.; St. John, N.B. (*Burgess.*) Wet places, at Bass River, and Fredericton; also Salmon River; borders of Lake Elsie, Richibucto, N.B (*Fowler, Cat.*) Moffatt's Island, opposite Montreal. (*C. F. McCrea.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Rather common in all the river bottoms in central Ontario, from Belleville westward to Owen Sound, and north-westerly to the Long Portage, Nipigon River, and along Current River, near Port Arthur, Lake Superior. (*Macoun.*) Lake Mistassini, N.E.T.; Severn River, Keewatin. (*J. M. Macoun.*) Michipicotin River, Ont. (*R. Bell.*) Valley of the Columbia, at Donald, B.C. (*Macoun.*)

(2681.) **C. vesicaria,** Linn. Sp. Pl. 979, (1753.)

We have seen no specimens which we can name true *C. vesicaria.* Northern British Columbia. (*Rothrock* vide *Bailey.*) Sitka, and Kotzebue Sound. (*Rothr. Alask.*)

Var. **major,** Boott, Hook., Fl. II., 221, (1840.)

Valley of the Fraser, at Ladner's Landing, B.C. (*Fletcher.*) Abundant in marshes and by rivers at Victoria, Nanaimo, Qualicum, and especially at Sproat Lake, near Alberni, Vancouver Island. (*Macoun.*)

(2682.) **C. Tuckermani,** Boott, Hook., Journ. Bot. V., 73, (1846.)

C. bullata, Dew. Sill. Journ. IX., 71, (1825); Hook., Fl. II., 221.
C. Tuckermani, var. *cylindrica,* Dew. Sill. Journ. XLIV., 48, (1845.)
C. cylindrica, Carey, Gray, Man. 566, (1848.)

Rather common in some localities growing in large clumps, mostly in water. Newfoundland. (*Reeks.*) Wet bank of Bass River, Kent Co., N.B. (*Fowler, Cat.*) Nun's Island, Montreal. (*C. F. McCrea.*) Nation River, and plentiful in all low grounds near Ottawa. (*Fletcher, Fl. Ott*) Wet ground, Prescott, Ont. (*Billings.*) Abundant in wet spots around Belleville, and westward in central Ontario; Port Dover Junction, and near St. Thomas, Elgin Co., Ont. (*Macoun.*) Swamps near London, Ont. (*Burgess. Millman.*) Vicinity of Hamilton, Ont. (*Logie.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Canada to Norway House. (*Hooker, Fl.*)

(2683.) **C. retrorsa,** Schweinitz, An. Tab. (1823.)

C. reversa, Sprengl. Syst. Veg. III., 827.

Marshy places and by ditches; rather common. Marshes at Truro, and Annapolis, N.S. (*Macoun.*) Common in wet places at Bass River. Kent Co., N.B. (*Fowler, Cat.*) Campbellton, N.B. (*Chalmers.*) Rivière du Loup, Q. (*Pickering.*) Recollet Swamp, near Montreal. (*C. F. McCrea.*) Sugar Bush, and Bevin's lakes, Montcalm Co., Q. (*D'Urban.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Very common at Prescott, Ont. (*Billings.*) Very abundant throughout central Ontario, and westward to Owen Sound, and north-westerly to Lake Nipigon and south to Port Arthur and Fort William, Lake Superior. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Swampy flat, London, Ont. (*Burgess. Millman.*) Oba Lake, Ont. (*R. Bell.*) Apparently quite rare in the Rocky Mountains, only noticed at Donald, Columbia Valley. (*Macoun.*) Saskatchewan. (*Bourgeau.*) Cumberland House to the Rocky Mountains. (*Hooker, Fl.*) Lake of the Woods, and Winnipeg River. (*Richardson.*)

Var. **Hartii,** Gray, Man. Ed. V., 600, (1868.)

C. Hartii, and var. *Bradleyii,* Dew. Sill. Journ. 2d. Ser. XLI., 226, (1886)
C. Macounii, Dew. Sill. Journ. XLI., 2d. Ser. 228, (1866.)

Abundant in ponds at Stirling, Hastings Co.; and in Tudor, and Marmora, North Hastings; also on F. Macoun's farm, Seymour, Northumberland Co., Ont., 1864. I agree with Prof. Bailey in placing this under var. *Hartii,* Gray, where I believe it properly belongs. Prof. Dewey thought it might be new, but suggested *C. Hartii* as its next of kin.

(2684.) **C. tentaculata,** Muhl. (1805); Hook., Fl. II., 222; Pursh, Fl. I., 40, (1814.)

C. rostrata, Willd. Sp. Pl. IV., 282, (1805.)
C. tentaculata. var. *rostrata,* Pursh, Fl. I., 41, (1814.)
C. Purshii, Olney, Exsicc. I., 30, (1870.)

Wet grounds by rivers and ponds; not rare. Pictou, N.S. (*McKay.*) Ditches, Annapolis, N.S. (*Macoun & Burgess.*) Abundant along the shore, Bass River bridge, Kent Co., N.B. (*Fowler, Cat.*) Chipman, N.B. (*Wetmore.*) St. Sauveur, near Quebec. (*St. Cyr.*) Quebec. (*W. L. Shepperd.*) Nation River, near Ottawa. (*Fletcher, Fl. Ott.*) Presqu'ile Point, Lake Ontario; abundant at Moore's Lake, Gull River, Victoria Co., Ont. (*Macoun.*) Woods near Hamilton, Ont. (*Logie.*) Port Cockburn, Lake Joseph, Muskoka, Ont. (*Burgess.*)

‡ ‡ ‡ *Pseudocyperæ, Bailey, Carex, Syn.* 69.

(2685.) **C. Schweinitzii,** Dew. Sill. Journ. IX., 68, (1825.)

A very distinct and beautiful species. Very rare in Canada. Newfoundland. (*Reeks.*) In damp, newly-cleared land, near Grafton, Northumberland Co., Ont., 1866. Never observed by me since. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*)

(2686.) **C. hystricina,** Muhl. (1805); Pursh, Fl. I., 43, (1814); Hook., Fl. II., 222.

C. Cooleyi, Dew. Sill. Journ. XLVIII., 144, (1845.)
C. Georgiana, Dew. Sill. Journ. 2d. Ser. VI., 245, (1848.)
C. Thurberi, Dew. Bot. Mex. Bound. 232, (1859.)

Abundant by springs and in wet meadows and marshes. Newfoundland. (*Reeks.*) Wet meadows at Annapolis, and Cape Blomidon, N.S.; also Baddeck, Cape Breton. (*Macoun.*) Lily Lake, and Welsford, N.B. (*Fowler, Cat.*) Long Lake, St. John Co., N.B. (*Hay.*) Murray Bay, and St. Andrews, Q. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Very common around Prescott, Ont. (*Billings.*) Abundant in boggy meadows throughout central Ontario, and westward to Owen Sound, and northwestward to Port Arthur, and northward to Blackwater River, Lake Nipigon. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*) Vicinity of Hamilton, Ont. (*Logie.*) Swamps near London, Ont. (*Burgess. Millman.*) Bosanquet, Lake Huron. (*McGill Coll. Herb.*) Medicine Hat, Alberta. (*J. M. Macoun.*) Not uncommon throughout the prairie region, north of lat. 52°. (*Macoun.*)

(2687.) **C. Pseudo-Cyperus,** Linn.; Pursh, Fl. I., 44; Hook., Fl. II., 222, (1840.)

Not uncommon in marshes and swamps, in woods and by brooks in the clearings. Truro, Annapolis, and Windsor, N.S. (*Macoun.*) Frequent along the borders of lakes and in ditches in Kent Co.; Long Lake, St. John Co., and McAdam Junction, N.B. (*Fowler, Cat.*) Marsh near Campbellton, N.B.; marshes, Gaspé coast, Q. (*Macoun.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Wet grounds, Prescott Junction, Ont. (*Billings.*) Swamps and stagnant pools, in clumps, very common throughout central Ontario, and westward to Owen Sound, Georgian Bay. (*Macoun.*) Swamp, near London, Ont. (*Burgess. Millman.*) Rainy River, north-western Ontario. (*Burgess.*) Muskeg Creek, Lake Winnipeg, Man. (*J. M. Macoun.*) Cumberland House, Saskatchewan River. (*Hooker, Fl.*) Rat Portage, Winnipeg River. *Bourgeau.*) Marsh, Lake of the Woods. (*Dawson.*)

Var. **comosa,** W. Boott, Bot. Calif. II., 252, (1880.)

C. furcata, Ell. Sk. Bot. II., 552.

C. Pseudo-Cyperus, Schw. & Torr., Car. Mon. 355, (1825.)

C. comosa, Boott, Linn. Trans. XX., 117, (1845); Macoun, Cat. No. 1973.

Rare in Canada or seldom collected. Newfoundland. (*Reeks.*) St. Stephen, N.B. (*Vroom.*) Lakeville, N.B. (*Brittain.*) Wet grounds near Prescott, Ont. (*Billings.*) Big Swamp, Murray, Northumberland Co.; Weller's Bay, Lake Ontario. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Swamps, London, Ont. (*Burgess. Millman.*)

(2688.) **C. trichocarpa,** Muhl. (1806); Hook., Fl. II., 222.

C. striata, Carey, Gray, Man. Ed. I., 561, (1848.)

C. trichocarpa, var. *turbinata,* Dew. Sill. Journ. XI., 159, (1827.)

Rare in Canada. Bog near Picton, Prince Edward Co., meadows along Crow River, Marmora, Hastings Co., Ont. (*Macoun.*) British America. (*Hooker, Fl.*)

Var. **Deweyi,** Bailey, Bot. Gaz. X., 293, (1885.)

C. lævi-conica, Dew. Sill. Journ. 2d. Ser., XXIV., 47, (1857.)

Abundant in the bed of Thunder Creek, west of Moose Jaw, and in Swift Current Valley, Assiniboia. (*Macoun.*) Brandon, Man. (*Prof. Fowler.*)

Var. **aristata,** Bailey, Bot. Gaz. X., 293, (1885.)

C. aristata, R. Br.; Hook., Fl. II., 222, (1840); Macoun, Cat. No. 1958.
C. atherodes, Sprengl. Syst. Veg. III., 828.
C. orthostachys, C. Meyer, Fl. Alt. IV., 231.
C. aristata var. *longo-lanceata*, Dew. Sill. Journ. XVIII., 102, (1854.)

Marshes along the Grand Trunk Railway, three miles east and five miles west of Belleville, Ont., and in low boggy places, Crow River, close to the bridge at Marmora, Hastings Co., Ont. (*Macoun.*) Wet ground near the Ottawa and Prescott Railway, Prescott, Ont. (*Billings.*) Lakes Superior and Huron. (*Richardson.*) Along the Kaministiqua River twenty miles from Lake Superior; very abundant throughout the whole prairie region, and extending north to Peace River and Lake Athabasca, to the base of the Rocky Mountains at Morley, and in the Columbia Valley at Donald. (*Macoun.*) Nelson River, Keewatin. (*R. Bell.*) Cumberland House, and Fort Carleton, on the Saskatchewan. (*Hooker, Fl.*) This *Carex* produces much of the marsh hay of the prairie region, and in summer is the chief food of Indian ponies. It never grows in brackish marshes, and all ponds where it grows have good water the whole season.

Dr. Gray and Prof. Bailey place *C. mirata*, Dewey, under this variety, but I think they are in error, as it has not the characters which separate this form from the species, but rather those of variety *imberbis*. I believe, however, it is a distinct variety. An examination of Prof. Dewey's Herbarium will decide this, as he had many specimens of it, collected by myself at Belleville, Ont., over twenty years ago. Indeed, the probabilities are that both *C. Bella-villa* and *C. mirata* equal *C. livida*, var. *divergens*, Bailey.

(2689.) **C. Alaskana,** Bœckeler, Engler's Bot. Jahrb. VII., Pt. III., 277, (1886.)

Alaska. (*Krause.*) Specimens referred by Arthur Bennett, F.L.S., with doubt to this species, were gathered in damp woods on the left bank of the Red Deer River, about a mile and a half above the mouth, at the head of Lake Winnepegoosis, Man., 1881. (*Macoun.*)

Addendum to Cyperaceæ.

(2690.) **Scirpus Clintonii,** Gray, Ed. V., 561.

S. planifolius. Muhl.; Torr. Bot. N. York II., 351, in part.

A rare species in Canada; only known from New Brunswick, but will likely be found along Lake Erie. Madawaska; Dideguash, St. Patrick, N.B. (*Fowler, Cat.*)

(2691.) **S. riparius,** Spreng, Fl. Austr. VII., 327.

S. pygmæus, Gray, Proced. Am. Acad. VII., 327.

S. setaceus, Linn. var. Bœckeler, Linnæa, XXXVI., 500.

Isolepis riparia, R. Br.; Hook., f. Fl. Tasm. II., 89.

I. leptocaulis, Torr. Pacif. R. Rep. IV., 153.

In boggy spots, reached by high tides, at Beacon Hill, near Victoria; also in salt marshes, below Alberni, on the west coast of Vancouver Island. (*Macoun.*)

CXVIII. GRAMINEÆ. (GRASS FAMILY.)

673. BECKMANIA, Host. Gram. Aust. III., 5.

(2692.) **B. erucæformis,** Host. var. **uniflorus,** Scribner.

Quite common in wet and overflowed grounds throughout the prairie region, extending east to Port Arthur, on the railway and west to Castle Mountain, in the Rocky Mountains. (*Macoun.*) Souris Plain, Assiniboia. (*J. M. Macoun.*) Milk River Ridge, N.W.T., and west fork of that river, Rocky Mountains. (*Dawson.*) Wood Mountain, Alberta. (*Burgess.*) Lake Mistassini, N.E.T.; Severn River, Keewatin. (*J. M. Macoun.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) Hayes, and Churchill rivers, Hudson Bay. (*R. Bell.*) High Bluff, Man. (*McGill Coll. Herb.*) Emerson, Man.; and Medicine Hat, Alberta. (*Prof. Fowler*) Red River, Man., 1826. (*Douglas.*) Griswold, Man. (*Rev. W. A. Burman.*)

674. PANICUM. Linn. Gen. 96. (PANIC GRASS.)

(2693.) **P. agrostoides,** Spreng.; Torr., Fl. N. York II., 429.

P. elongatum, Pursh, Fl. I., 69.

Common in clumps along Sproat Lake, six miles from Alberni, west coast of Vancouver Island, 1887. (*Macoun.*) Although collected in August, the specimens are not more than half grown. There is no doubt of it being indigenous, as there are no settlements where it was found

(2694.) **P. capillare,** Linn.; Michx., Fl. I., 47; Pursh, Fl. I., 67; Hook., Fl. II., 236.

Abundant in cultivated fields and waste places. Truro, and Windsor, N.S. (*Macoun.*) A weed in gardens and cultivated grounds, N.B. (*Fowler, Cat.*) Lobster Bay, and St. Charles River, Q. (*St. Cyr.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Common at Prescott, Ont. (*Billings.*) Abundant throughout central Ontario, and westward to Port Arthur, Lake Superior. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Fields at London, and Toronto. (*Burgess.*) Waste places, Kingston, Ont. (*Millman.*) Washow Bay, Lake Winnipeg. (*J. M. Macoun.*) Quite common along streams throughout the prairie region; observed only at Stamp River Falls, near Sproat Lake, Alberni, Vancouver Island. (*Macoun.*) Victoria, Vancouver Island. (*Fletcher.*) Lytton, B.C. (*Hill.*) Saskatchewan. (*Hooker, Fl.*)

(2695.) **P.** CRUS-GALLI, Linn.; Michx., Fl. I., 46; Pursh, Fl. I., 66; Macoun, Cat. No. 2258.

Oplismenus Crus-Galli, Kunth; Hook., Fl. II., 236.

Usually along ditches and about barns in cultivated ground. Pictou, N.S. (*Macoun. McKay.*) A very variable and troublesome weed about barnyards and gardens, N.B. (*Fowler, Cat.*) St. Charles River, Quebec city. (*St. Cyr.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Very common around Prescott, Ont. (*Billings.*) Abundant in barnyards and ditches in the settled parts of Ontario, westward to Owen Sound. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Abundant around London, Ont. (*Burgess. Millman.*) West Rideau Lake, Ont. (*Porter.*)

Var. **hispidum,** Ell. Sk. I., 114.

P. muricatum, Michx., Fl. I., 47. (?)
P. Walteri, Pursh, Fl. I., 66.
Oplismenus muricatus, Kunth; Hook., Fl. II., 236.

Rather uncommon but apparently indigenous. Along the Nation River, at Casselman. (*Fletcher, Fl. Ott.*) In alluvium along the Salmon River, above Shannonville, Hastings Co., Ont. (*Macoun.*) Point Edward, River St. Clair, Ont. (*J. M. Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Distinguished chiefly from the species by the very hispid sheaths of the leaves.

(2696.) **P. depauperatum,** Muhl. Gram. 112.

P. rectum, Rœm. & Schultz.; Hook., Fl. II., 235.
P. involutum, Torr., Fl. I., 147.

Dry sandy or rocky ground; rather rare. Newfoundland. (*Reeks.*) Sandy woodlands, Kingston, N.S. (*Macoun.*) Vicinity of Ottawa; rare.

(*Fletcher, Fl. Ott.*) Huckleberry Rapids, Argenteuil Co., Q. (*D' Urban.*) Grand Trunk gravel pit, near Prescott, Ont. (*Billings.*) Very abundant on Laurentian rocks, at Shannonville, and on the bank of the Trent, above the railway bridge, near Trenton, Hastings Co., Ont.; dry places at Owen Sound; up the Kaministiqua, near Kakabeka Falls, and on Pie Island, Lake Superior. (*Macoun.*) Vicinity of London, Ont. (*Burgess. Millman.*) Dry banks, Hamilton, Ont. (*Logie.*) Plains of the Saskatchewan. (*Hooker, Fl.*)

(2697.) **P. dichotomum,** Linn.; Pursh, Fl. I., 67.

Rather common in dry or damp thickets and meadows. The typical form is the *P. nodiflorum*, Lam., and is chiefly found in meadows and on rocks. Newfoundland. (*Reeks.*) Common at Bedford, N.S. (*Macoun.*) Glenelg, Guysboro Co., N.S. (*Faribault.*) In dry fields and woods, Kent Co., N.B. (*Fowler, Cat.*) Quebec. (*St. Cyr.*) Banks of the Rivière Rouge, Argenteuil Co., Q. (*D'Urban.*) Tadousac, Q. (*A. T. Drummond.*) Vicinity of Ottawa; common. (*Fletcher, Fl. Ott.*) Thickets near Prescott, Ont. (*Billings.*) Abundant on dry sandy soil throughout Ontario, extending westward to Owen Sound, and north-west to Sault Ste. Marie, and around Lake Superior to Thunder Bay. (*Macoun.*) Port Colborne, Ont. (*McGill Coll. Herb.*) Vicinity of Hamilton, Ont. (*Logie.*) London, Windsor, and Point Pelée, Lake Erie. (*Burgess.*) Rupert River, N.E.T.; Medicine Hat, Alberta. (*J. M. Macoun.*)

Var. **nitidum,** Lam.; Gray, Man. Ed. V., 649.

P. nitidum, Lam.; Michx., Fl. I., 47; Pursh, Fl. I., 67; Hook., Fl. II., 235.

This is the smooth unbranched form most frequently met with in thickets. St. James, N.B. (*Vroom.*) Sandy woods, near Belleville, and Owen Sound, Ont. (*Macoun.*) Throughout Canada to the Saskatchewan. (*Hooker, Fl.*)

Var. **pubescens,** Gray, Man. Ed. V., 649.

P. pubescens, Lam.; Michx., Fl. I., 47; Pursh, Fl. I., 68.
P. thermale, Boland. Proced. Calif. Acad. II., 181.

Leaves and sheaths pubescent. Sandy woods, Point Pelée, Lake Erie. (*Burgess.*) Valley of the Upper Columbia, B.C. (*Dawson.*) On the higher slopes of Mount Dawson, Roger's Pass, B.C. (*Macoun.*)

(2698.) **P.** GLABRUM, Gaud. Agrost. I., 22.

Digitaria glabra, Rœm. & Schultz.; Torr. Fl. I., 154.
D. Ischæmum, Schreb.; Muhl. Gram. 121.

Introduced chiefly along railways and waste ground about towns. Truro, and Pictou, N.S. (*Macoun.*) Fredericton, on the railway track;

Nashwaaksis, Hampton, and Salmon River, N.B. (*Fowler, Cat.*) Point Lèvis, Q. (*Macoun.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Railway track, two miles west of Prescott, Ont., and in a sandy field near that town. (*Billings.*) Waste places at Belleville, and Owen Sound; on the railway track at St. Thomas, Chatham, and Windsor, Ont. (*Macoun.*) Near Hamilton, Ont. (*Logie.*) Meadows, roadsides, and lawns, London, Ont. (*Burgess. Millman.*)

(2699.) **P. latifolium,** Linn.; Michx., Fl. I., 49; Pursh, Fl. I., 68; Hook., Fl. II., 235.

P. clandestinum, Hook., Fl. II., 235.

Waste ground, Grand Trunk gravel pit, near Prescott, Ont. (*Billings.*) Rich rocky woods and thickets, common in Prince Edward, Hastings, and Northumberland Co's., Ont.; Grassy woods, Niagara Falls. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Sandy woodlands, near London. (*Burgess. Millman.*) Jones Falls, near Kingston, Ont. (*Millman.*) Quebec, and Ontario. (*Hooker, Fl.*)

(2700.) **P. laxiflorum,** Lam.; Pursh, Fl. I., 68.

Small specimens of this species have been sent from St. Stephen, N.B., by Mr. James Vroom. They are, although very small, identical with others received from Dr. Vasey, Botanist Agricultural Department, Washington.

(2701.) **P. microcarpum,** Muhl. var. **sphærocarpon,** Vasey.

P. dichotomum, var. *sphærocarpum,* Gray.

In thickets on dry hillsides, near Windsor, N.S., 1883. (*Macoun & Burgess.*) All the various forms which have hitherto passed as *P. dichotomum* should be carefully examined and compared with authentic specimens as there is no doubt but we have more forms than are here recorded.

(2702.) **P. pauciflorum,** Ell.; Gray, Man. Ed. V., 648.

Open prairie, Emerson, Man. (*Burgess. Millman.*) Swampy prairie, Red River, Man. (*Dawson.*)

(2703.) **P. SANGUINALE,** Linn. Sp. Pl. I., 55.

Digitaria sanguinale, Michx., Fl. I. 45; Pursh, Fl. I., 69.

Syntherisma præcox, Walt. Fl. Car. 76.

Fields, roadsides, and railway tracks, sparingly introduced. Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Banks of the St. Lawrence, west of Prescott, Ont. (*Billings.*) Common at Queenston and Niagara. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Waste places at London, and Point Pelée, Ont. (*Burgess.*) Roadside, Port Dover, Ont. (*Millman.*)

(2704.) **P. scoparium,** Lam. Encycl. IV.

P. pauciflorum, Ell. (?); Gray, Man. Ed. V., 648.

Sparingly collected on Point Pelée, Lake Erie. (*Burgess.*) Spence's Bridge, B.C. (*Fletcher.*) Abundant at Long Lake, near Departure Bay, shores of Shawnigan and Horne Lakes, and common at Alberni, on the west coast of Vancouver Island. (*Macoun.*)

(2705.) **P. virgatum,** Linn.; Michx., Fl. I., 352; Pursh, Fl. I., 67; Hook., Fl. II., 235.

Sandy shores of rivers and lakes. Sands of Presqu'ile Point, Lake Ontario; shores of Red and Chicken Bays, Lake Huron. (*Macoun.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Point aux Pins, Lake Erie. (*Burgess.*) Red Deer River, north of Porcupine Mountain, Man.; sand hills, at the source of the Qu'Appelle River, Assiniboia. (*Macoun.*) Lake Huron, and Saskatchewan. (*Hooker, Fl.*) Red River, Man., 1826. (*Douglas.*)

(2706.) **P. xanthophysum,** Gray, Gram. & Cyp. I., 20; Hook., Fl. II., 235.

Rather rare in open, rocky, or sandy woods. Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Fields near the Grand Trunk gravel pit, Prescott, Ont. (*Billings.*) Dry thickets and meadows, east of Belleville; very common; also on Rice Lake Plains, and at Port Dover Junction, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) La Cloche, Trading Post, Georgian Bay. (*R. Bell.*) Sandy soil, twenty miles up the Kaministiqua, west of Lake Superior; not uncommon in thickets along the Assiniboine, as far west as Fort Ellice, Man. (*Macoun.*) Plains of the Saskatchewan, (*Hooker, Fl.*)

674. SETARIA, Beauv. (BRISTLY FOXTAIL-GRASS.)

(2707.) **S.** GLAUCA, Beauv.; Hook., Fl. II., 236.

Panicum glaucum, Linn.; Michx., Fl. I., 46; Pursh, Fl. I., 66.
Pennisetum glaucum, R. Br., Prodr. 195.

Naturalised in cultivated grounds, and on waste places about towns and cities. A common weed in gardens and manured ground, Bass River, N.B. (*Fowler, Cat.*) St. Remi, Q. (*McGill Coll. Herb.*) Point Lèvis, Q. (*Macoun.*) Quebec city. (*St. Cyr.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Very common at Prescott, Ont. (*Billings.*) Abundant in all cultivated grounds near barns, and on waste lots in villages

in central Ontario, and westward to Owen Sound. (*Macoun.*) Waste lots and gardens, Hamilton, Ont. (*Logie.*) Fields near London, Ont. (*Burgess. Millman.*) Saskatchewan. (*Hooker, Fl.*)

(2708.) **S.** ITALICA, Kunth; Gray, Man. Ed. V., 650.

Introduced and cultivated, but spontaneous for some years after. Vacant lots, Quebec. (*St. Cyr.*) Common on waste lots, Ottawa. (*Fletcher, Fl. Ott.*) Frequent in vacant lots about towns and villages in central Ontario. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Old fields, London, Ont. (*Burgess, Millman.*)

(2709.) **S.** VERTICILLATA, Beauv.; Gray, Man. Ed. V., 649.

Panicum verticillatum, Willd.; Pursh, Fl. I., 66.

Waste places near dwellings; not common. Pictou Co., N.S. (*Sommers, Cat.*) On ballast at St. John, N.B. (*Fowler, Cat.*) Not rare in cultivated ground around Belleville, Ont.; fields at Owen Sound; waste lots, Toronto. (*Macoun.*) Roadside near Montreal. (*Fletcher.*) Fields and roadsides, Hamilton, Ont. (*Logie.*)

(2710.) **S.** VIRIDIS, Beauv. Agrost. 51.

Panicum viride, Linn.; Pursh, Fl. I., 66.
Pennisetum viride, R. Br. Prodr. 195.

Naturalized in cultivated grounds. Very common everywhere in the settled districts. Grand Lake, Halifax Co., N.S. (*Sommers, Cat.*) Gardens and cultivated grounds, Bass River, N.B. (*Fowler, Cat.*) Vacant lots, Quebec. (*St. Cyr.*) Point Lèvis, Q. (*Macoun.*) Very abundant about Ottawa. (*Fletcher, Fl. Ott.*) Very common at Prescott, Ont. (*Billings.*) Abundant in all cultivated ground throughout central Ontario. (*Macoun.*) Fields and waste places, Hamilton, Ont. (*Logie.*) Vicinity of London, Ont.; Emerson, Man. (*Burgess.*)

675. CENCHRUS, Linn. (HEDGE-HOG GRASS)

(2711.) **C.** TRIBULOIDES, Linn.; Michx., Fl. I., 61; Pursh, Fl. I., 60.

C. echinatus, Muhl.; Torr., Fl. I., 68.
C. Carolinianus, Walt., Fl. Car. 79.

Introduced along railways in a few localities. Great Western Railway, a mile east of Dundas, Ont. (*Logie.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Point Pelée, and Point aux Pins, Lake Erie. (*Burgess.*) Sandy shore, near Leamington, Essex Co., Ont. (*Pearson.*)

676. SPARTINA, Schreb. (CORD-GRASS)

(2712.) **S. cynosuroides,** Willd. Enum. I., 80; Hook., Fl. II., 242.

S. polystachya, Hook., Fl. II., 242.
Dactylis cynosuroides, Linn. Sp. I., 71.
Trachynotia cynosuroides, Michx., Fl. I., 64.
Limnetis cynosuroides, Pursh, Fl. I., 59.

Abundant in fresh and salt-water marshes and by rivers. Marsh at Truro, N.S. (*Campbell.*) Oyster Marsh, N.S. (*McGill Coll. Herb.*) Pictou, N.S. (*McKay.*) Marshes at Annapolis, and Windsor, N.S., and Baddeck, Cape Breton. (*Macoun & Burgess.*) Marshes, especially near the coast, Kent Co., N.B. (*Fowler, Cat.*) Salt Lake, Anticosti, and at the mouth of the Restigouche, Q. (*Macoun.*) Pentecost River, Q. (*St. Cyr.*) St. Remi, and Montreal Mountain, Q. (*McGill Coll. Herb.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) River Trent, at Trenton, and Weller's Bay, Lake Ontario; not uncommon along the still waters of the Trent and Gull rivers, in central Ontario. (*Macoun.*) Moon River, Muskoka, and London, Ont. (*Burgess.*) North shore of Lake Superior. (*Agassiz.*) High Bluff, Man. (*McGill Coll. Herb.*) Moose Mountain Creek, Assiniboia. (*J. M. Macoun.*) Souris River, Man. (*Millman.*) Very abundant in marshes throughout Manitoba and north-westward to the Saskatchewan. (*Macoun.*) Red River prairie, Man., 1826. (*Douglas.*) Saskatchewan to Little Slave Lake. (*Hooker, Fl.*) Winnipeg, and Northwest Angle Road; east of the Souris River, Man. (*Dawson.*)

(2713.) **S. gracilis,** Trin.; Steud. Gram. 214.

Very abundant in salt marshes throughout the whole prairie region. It is seldom tall, and is usually cut for hay. Old Wives Lakes, Red Deer Lakes, and the prairie south of Battleford. (*Macoun.*) Wood Mountain, Assiniboia. (*Millman, Dawson.*)

(2714.) **S. juncea,** Willd. Enum. I., 81.

Trachynotia juncea, Michx., Fl. I., 64.
Limnetis juncea, Pers.; Pursh, Fl. I., 59.

Salt marshes at Pictou, N.S. (*McKay.*) Salt marshes, Kouchibouguac, and Richibucto, N B. (*Fowler, Cat.*) Marshes, Yarmouth, N.S. (*Macoun.*) Newfoundland. (*Reeks.*) Margaret's Bay, N.S. (*Millman, Herb.*) Salt marshes, Bic, Q. (*Pringle.*)

(2715.) **S. polystachya,** Willd.; Hook., Fl. II., 242, in part.

Canada. (*Hooker, Fl.*) Magdalen Islands, N.S. (*McKay.*) We strongly suspect that these references belong to *S. cynosuroides.* The remark in Gray's Manual that *S. cynosuroides* is only a fresh-water species, is not borne out by the facts, as all my eastern specimens were gathered in brackish marshes, and certainly the awn and other distinctive characters were just as well marked as in the specimens from the Great Lakes.

(2716.) **S. stricta,** Roth. var. **glabra,** Gray, Man. Ed. V., 628

Salt marshes, Baddeck, Cape Breton. (*Burgess.*) Marshes, Pictou, N.S. (*McKay.*)

Var. **alterniflora,** Gray, Man. Ed. V., 620.

Newfoundland. (*Reeks.*) Pictou, N.S. (*McKay.*) Salt marshes, Richibucto, N.B. (*Fowler, Cat.*) Salt marsh, nearly at low tide, Ellis Bay, Anticosti. (*Macoun.*) Margaret's Bay, N.S. (*Millman, Herb.*) Salt marsh, Lower St. Lawrence. (*Pringle.*) Cacouna, Q. (*Burgess, Herb.*)

677. ZIZANIA, Linn. Gen. 1062. (WILD RICE.)

(2717.) **Z. aquatica,** Linn.; Pursh, Fl. I., 60.

Z. clavulosa, Michx., Fl. I., 75.
Hydropyrum esculentum, Link.; Hook., Fl. II., 233.

Very abundant in many marshes and lakes throughout Ontario. Abundant in water at Hampton, and other places in King's Co.; not rare at Salmon River, N.B. (*Fowler, Cat.*) Beauport, Q.; and Island of Orleans. (*St. Cyr.*) St. Andrews, Q. (*McGill Coll. Herb.*) Borders of rivers and brooks, near Ottawa. (*Fletcher, Fl. Ott.*) Very abundant in the Bay of Quinte, and Rice Lake, and throughout the whole length of the Trent and all its tributaries; common in marshes all around the Great Lakes, and nine miles west of Fort William, Thunder Bay. (*Macoun.*) Marsh at the mouth of the Mississaugi River, Georgian Bay. (*R. Bell.*) Marshes, Burlington Bay, Hamilton, Ont. (*Logie.*) Marshes at Kingston, and Picton, Ont. (*Millman.*) Toronto marsh, and Point aux Pins, Lake Erie. (*Burgess.*) Lake of the Woods, Rosseau River, Man. (*Burgess. Dawson.*) Lake Huron. (*Hooker, Fl.*) Newfoundland. (*Reeks.*)

678. LEERSIA, Swartz. (WHITE GRASS.)

(2718.) **L. oryzoides,** Swartz.; Pursh, Fl. I., 62; Hook., Fl. II., 233.

Phalaris oryzoides, Linn. Sp. I., 55.
Asprella oryzoides, Lam. Ill. No. 858.

Truro, and Windsor, N.S. (*Macoun.*) Wet banks of streams, Bass River, N.B (*Fowler, Cat.*) Charlotte and Carleton Co's., N.B. (*Vroom.*) King's Co., N.B. (*Brittain.*) Aylmer, Q.; rare near Ottawa. (*Fletcher, Fl. Ott.*) Conway's Creek; very common at Prescott, Ont. (*Billings.*) Low marshy meadows and ditches; common throughout central Ontario. (*Macoun.*) Marshes, Hamilton, Ont. (*Logie.*) Shallow water, London, Ont. (*Burgess. Millman.*) Canada to the Saskatchewan. (*Hooker, Fl.*) Newfoundland. (*Reeks.*)

(2719.) **L. Virginica,** Willd.; Hook., Fl. II., 233.

Asprella Virginica, Rœm. & Schultz. Syst. II., 266.

Swamps in wet, shady woods, evidentiy rare in Ontario. Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Near Hamilton, Ont. (*Logie.*) Shallow water, near London, Ont. (*Burgess. Millman.*) Ontario. (*Goldie.*) Newfoundland. (*Reeks.*)

679. ANDROPOGON, Linn. Gen. 1145. (BEARD-GRASS.)

(2720.) **A. provincialis,** Lam; Scribner, Trans. Kansas Acad. Sci. IX., 116.

A. furcatus, Muhl.; Pursh, Fl. I., 75; Hook., Fl. II., 256; Macoun, Cat. No. 2268.

Rather common in dry, sandy thickets or open woods. Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Rocky woodlands, west of Brockville, Ont. (*Billings.*) Sandy fields and thickets east of Belleville; very abundant on Rice Lake Plains, and on sandy and gravelly soil all through central Ontario, and westward to Lake Erie. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie*) Port Colborne, Ont. (*McGill Coll. Herb.*) Shady woodland, London, Ont. (*Burgess. Millman.*) Shores of Red Deer River, near Porcupine Mountain, Man. (*Macoun.*) Hudson Bay; Lake Huron; Saskatchewan to the Rocky Mountains. (*Hooker, Fl.*) Turtle Mountain, Man. (*Dawson. Burgess.*) Lake of the Woods. (*Dawson.*) Red River, Man., 1826. (*Douglas.*)

(2721.) **A. scoparius,** Michx., Fl. I., 57; Pursh, Fl. I., 74; Hook., Fl. II., 256.

A. purpurascens, Willd. Sp. IV., 913.
Pollinia scoparia, Spreng.; Rœm. & Schultz. Syst. II., 832.

Dry sandy soil, widely distributed. Goat Island, in Grand Lake, N.B. (*Fowler, Cat.*) Kirk's Ferry, Q. (*Fletcher, Fl. Ott.*) Abundant on Rice Lake Plains, and westward to Lakes Erie and Huron. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Port Colborne, Ont. (*McGill Coll. Herb.*) Sandy soil, London, Ont. (*Burgess. Millman*) East side of La Cloche Island, Georgian Bay. (*R. Bell.*) South Antler Creek, Man. (*Millman.*) Abundant in dry spots in Manitoba, and throughout the southern prairie region to Calgary and Morley, Alberta. (*Macoun.*) Banks of the Saskatchewan. (*Hooker, Fl.*)

680. CHYSOPOGON, Trin. (WOOD-GRASS.)

(2722.) **C. nutans,** Benth. & Hook., Gen. Plant. III., 1135.

Andropogon nutans, Linn.; Pursh, Fl. I., 74.
A. avenaceus, Michx., Fl. I., 58; Pursh, Fl. I., 74; Hook., Fl. II., 257.
Sorghum nutans, Gray; Macoun, Cat. No. 2271.

Dry sandy woods, near Ottawa. (*Fletcher, Fl. Ott.*) Rocky woodland west of Brockville, Ont. (*Billings.*) Bank of the Trent at Heely Falls; common on Rice Lake Plains; along the Humber and Don, at Toronto, and at Niagara Falls. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) London; and Port Cockburn, Muskoka, Ont. (*Burgess.*) Saskatchewan. (*Hooker, Fl.*) High Bluff, Man. (*McGill Coll. Herb.*)

681. PHALARIS, Linn. Gen. 74. (CANARY-GRASS.)

(2723.) **P. arundinacea,** Linn.; Michx., Fl. I., 43; Pursh, Fl. I., 65; Hook., Fl. II., 234.

P. Americana, Torr., Fl. I., 100.
Calamagrostis colorata, Nutt., Gen. I., 46.

In ditches, marshes, and the borders of ponds; common westward Marshes at Truro, and Annapolis, N.S.; and at Whycocomagh, Cape Breton. (*Macoun.*) Not uncommon in Carleton Co., and along the St. John River, N.B. (*Vroom.*) Campbellton, N.B. (*Chalmers.*) Becscie River, and Ellis Bay, Anticosti. (*Macoun.*) Vicinity of Ottawa. (*Fletcher,*

Fl. Ott.) Swamps: common at Prescott, Ont. (*Billings.*) Borders of ponds, marshes, and swamps, throughout central Ontario, westward to Owen Sound, north-westerly to Lake Nipigon, and south to the Kaministiqua River, fifteen miles from its mouth. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Port Colborne, Ont. (*McGill Coll. Herb.*) Swampy river bank, London, Ont. (*Burgess. Millman.*) Sault Ste. Marie. (*R. Bell.*) North shore of Lake Superior. (*Agassiz.*) Lake Mistassini, N.E.T.; Black River, Lake Winnipeg; Souris Plain, Man. (*J. M. Macoun.*) Lake of the Woods; Red River prairie, Man. (*Dawson.*) Abundant in marshes throughout Manitoba, and westward to the Peace River, lat. 56°; rather common in ponds in the foot-hills around Morley, and westward through the Rocky Mountains to Donald in the Columbia Valley; common in northern British Columbia on the Nachacco; along Shawnigan Lake, and the Alberni Canal, Vancouver Island. (*Macoun.*) Frequent on the banks of streams, from Canada to Bear Lake, and from Hudson Bay to the Pacific ocean. (*Hooker, Fl.*) Vancouver city, B.C. (*Prof. Fowler.*)

(2724.) **P.** CANARIENSIS. Linn. Sp. I., 54.

Spontaneous on waste heaps around towns and villages. Pictou, N.S. (*McKay.*) Spreading from ballast at St. John, N.B. (*Fowler. Cat.*) Quebec city. (*St. Cyr.*) Around Ottawa. (*Fletcher. Fl. Ott.*) Waste places, near Prescott, Ont. (*Billings.*) Waste heaps at Belleville, Ont. (*Macoun.*) Lake shore at Kingston, Ont. (*Millman.*) Vicinity of Hamilton, Ont. (*Logie.*) Waste places, London, Ont. (*Burgess.*) On ballast at Nanaimo, Vancouver Island. (*Macoun.*)

682. ANTHOXANTHUM, Linn. Gen. 42. (SWEET-SCENTED VERNAL GRASS.)

(2725.) **A.** ODORATUM, Linn.; Michx., Fl. I., 39; Pursh, Fl. I., 65; Hook., Fl. II., 235.

Introduced in meadows and pastures, chiefly eastward. Newfoundland. (*Reeks.*) Bedford, Halifax Co., N.S. (*Sommers. Cat.*) Pictou, N.S. (*McKay.*) Truro, Halifax, and Yarmouth, N.S. (*Macoun.*) Common in grass fields and pastures, Bass River, N.B. (*Fowler, Cat.*) Ste. Geneviève Island, Seven Islands Bay, and Island of Orleans. (*St. Cyr.*) Port Colborne, Ont. (*McGill Coll. Herb.*) Low meadows, London, Ont. (*Burgess. Millman.*) Vicinity of Hamilton, Ont. (*Buchan.*) Abundant in meadows at Victoria, and Nanaimo, Vancouver Island. (*Macoun.*) Greenland. (*Lange.*)

683. HIEROCHLOA, Gmel. (HOLY GRASS.)

(2726.) **H. alpina,** Rœm. & Schultz.; Hook., Fl. II., 234.

Holcus alpinus, Wahl. Fl. Lapp., 31.

On the summits of high mountains and northward. Ford's Harbor, coast of Labrador; Cape Chudleigh, and Cape Prince of Wales, Hudson Strait. (*R. Bell.*) Ungava Bay, Labrador. (*Barnston.*) Pond's Bay, and Lancaster Sound, Baffin's Bay. (*Dr. Kennedy.*) On the coast of Hudson Bay, between Fort Churchill and Cape Lady Pelly. (*Dr. Rae.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) Fort George, James Bay. (*J. M. Macoun.*) Summit of Mount Albert, Gaspé, Q. (*Macoun. Porter.*) Mountain at Finlayson River, alt. 4,300 feet, lat. 61° 30°, north of British Columbia. (*Dawson.*) Labrador, and Arctic sea-shores and islands. (*Hooker, Fl.*) Ounalashka, Kotzebue Sound, and Arctic coast. (*Rothr. Alask.*) Greenland. (*Lange.*)

(2727.) **H. borealis,** Rœm. & Schultz.; Hook., Fl. II., 234.

Holcus odoratus, Linn.; Michx., Fl. I., 56.
H. fragrans, Pursh, Fl. I., 78.

Sandy shores, meadows, or prairies; widely distributed. Newfoundland. (*Reeks.*) Truro, and Yarmouth, N.S. (*Macoun.*) On the Magdalen Islands, N.S. (*J. Richardson.*) Bedford Basin, N.S. (*Sommers, Cat.*) Coast of Labrador. (*McGill Coll. Herb.*) Molus River, Richibucto and elsewhere, in Kent Co., N.B. (*Fowler, Cat.*) Sheldrake River, and Pentecost River, Q. (*St. Cyr.*) Salt Lake, and Jupiter River, Anticosti. (*Macoun.*) Summit of Mount Albert, Gaspé, Q. (*Porter.*) Border of a field near Belleville, Ont.; extremely abundant all around Lake Superior, and northward up the Nipigon River, to Camp Alexander. (*Macoun.*) River flat, London, Ont. (*Burgess. Millman.*) North shore of Lake Superior. (*Agassiz.*) Point aux Pins, Lake Erie; Emerson, Man. (*Burgess.*) Swampy prairie, Red River, and Pembina Mountain, Man. (*Dawson.*) Lake Mistassini, and down Rupert River, to James Bay; Beren's River, and Severn River, Keewatin; Moose Mountain, Man. (*J. M. Macoun.*) Oxford House, Keewatin. (*R. Bell.*) Very common in wet prairies and along rivers and lakes throughout the whole prairie region, and north to Peace River; not uncommon from the meadows at Morley through the Rocky Mountains to the Columbia Valley; common in northern British Columbia to lat. 55°, at Fort McLeod. (*Macoun.*) Telegraph Creek, lat. 58°, B.C.; Upper Liard River, lat. 60°, B.C.; Lewes River,

lat. 62°, north of British Columbia. (*Dawson.*) Ounalashka, and Kotzebue Sound. (*Rothr. Alask.*) Bartlett Bay, Alaska. (*Meehan.*) Saskatchewan, and the Rocky Mountains; dry ground, near the source of the Columbia; Nootka Sound. (*Hooker, Fl.*)

(2728.) **H. pauciflora,** R. Brown, Hook., Fl. II., 234.

Melville, and other Arctic Islands. (*Hooker, Fl.*)

684. ALOPECURIS, Linn. Gen. 78. (FOX-TAIL GRASS.)

(2729.) **A. alpinus,** Smith; Hook., Fl. II., 234, in part.

Cape Prince of Wales, Digge's Island, Mansfield Island, and Nottingham Island, Hudson Strait. (*R. Bell*) Fort George, James Bay; between Fort Severn, and York Factory, Hudson Bay. (*J. M. Macoun*) Island of St. Lawrence, and Kotzebue Sound. (*Rothr. Alask.*) Pond's Bay, and Port Kennedy, Lancaster Sound. (*Dr. Walker.*) Coast of Hudson Bay, between Fort Churchill and Repulse Bay. (*Dr. Rae.*) Arctic sea-shores and islands. (*Hooker, Fl.*) Point Barrow, Arctic coast. (*John Murdoch.*) Greenland. (*Lange.*)

(2730.) **A. geniculatus,** Linn.; Hook., Fl. II., 233.

Apparently introduced eastward. Newfoundland. (*Reeks*) Abundant in ditches, Point Pleasant, Halifax, N.S. (*Macoun. Sommers, Cat.*) St. Andrews, N.B. (*Vroom.*) Wet places, Carleton, N.B. (*Fowler, Cat.*) Gravelly beach at the lower end of Presqu'ile Point, Lake Ontario; muddy flats at Amherstburgh, Lake Erie. (*Macoun.*) Watery places on the prairie west of Red Deer Lakes, Alberta. (*Macoun.*) Along the South Saskatchewan, Alberta. (*Dawson.*) Greenland. (*Lange.*)

Var. **aristulatus,** Munro; Torr., Fl. I., 97.

A. aristulatus, Michx., Fl. I., 43; Hook., Fl. II., 233; Macoun, Cat. No. 2115.
A. sub-aristatus, Pursh, Fl. I., 66.

Muddy places and ponds; common and widely distributed. Brigus, Newfoundland. (*R. Bell.*) Pictou, N.S. (*McKay*) Charlotte Co., N.B. (*Vroom.*) Petitcodiac, N.B. (*Brittain.*) Wet places, Bass River, N.B. (*Fowler, Cat.*) Campbellton, N.B. (*Chalmers.*) Salt Lake, Anticosti. (*Macoun.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Common at Prescott, Ont. (*Billings.*) Very common throughout central Ontario, and extending north-westerly to Nipigon River and Lake. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Shallow water at London, Ont. (*Burgess. Millman.*) Parry Sound, Georgian Bay; Dawson Road, near

Port Arthur; at Emerson, Man. (*Burgess.*) Kingston, Ont. (*Millman.*) Rupert River, N.E.T.; Severn River, Keewatin. (*J. M. Macoun.*) Churchill River, Hudson Bay. (*R. Bell.*) Not uncommon between Winnipeg and Point du Chien, Man. (*Dawson.*) In muddy places throughout the prairie region, especially northward, and from Calgary through the Rocky Mountains to the Columbia Valley; through northern British Columbia, to Fort McLeod, lat. 55°. (*Macoun.*) Ilgacho Brook, B.C. (*Dawson.*) Red River, Man., 1826. (*Douglas.*) Canada to Bear Lake. (*Hooker, Fl.*) Departure Bay, Vancouver Island. (*Meehan.*)

Var. **robustus,** Vasey, Bull. Torr. Bot. Club, XV., 13.

In wet places at Ladner's Landing, on the Fraser River, BC., 1885. (*Fletcher.*) Ponds, near Victoria and Cedar Hill (1875); and on Mount Benson, near Nanaimo, Vancouver Island. (*Macoun.*) Alaska. (*Vasey.*) This is a new variety.

(2731.) **A. Macounii,** Vasey, Bull. Torr. Bot. Club, XV., 12.

A. geniculatus, var. *pumila,* Vasey. (MS.?), 1875.

On dry rocks close to Victoria, 1875. Abundant in hollows in rocks where water lies, in the spring at Cadboro and Oak bays, near Victoria, Vancouver Island, 1887. (*Macoun.*) Very near if not identical with *A. Howellii,* Vasey.

(2732.) **A.** PRATENSIS, Linn.; Pursh, Fl. I., 65; Hook., Fl. II., 234.

Introduced from Europe and very abundant in meadows in the Atlantic provinces. Newfoundland. (*Reeks.*) Bedford, Halifax Co., N.S. (*Sommers, Cat.*) Very abundant at Annapolis (where it is locally named *French Timothy*), Grand Prè, Windsor, and Halifax, N.S; common at Louisburg, Cape Breton, where its French origin is again seen; not uncommon in meadows at Victoria, and Nanaimo, Vancouver Island. (*Macoun.*)

(2733.) **A. occidentalis,** Scribner, Coulter's Bot. Gaz. XI., 170, (1886.)

A. alpinus, Dawson, Bound. Rep. 377.

A. pratensis, var. *alpestris,* Vasey, Cat. Grasses, U. States, 34, (1885.)

A. alpinus, Hook., Fl. II., 234, in part.

North Fork of Old Man River, foot-hills of Rocky Mountains. (*Dawson.*) The leafy bract at the base of the spike is very characteristic of this species.

685 ARISTIDA, Linn. Gen. 74. (TRIPLE-AWNED GRASS.)

(2734.) **A. basiramea,** Engelmann; Upham, Cat. Min. Pl. 163.

Vicinity of Brandon, Man. (*R. J. Scott.*) This is a new species found first by Mr. W. Upham, at Minneapolis, Minn.

(2735.) **A. dichotoma,** Linn.; Michx. Fl. 41; Pursh, Fl., I., 72.

Port Colborne, Lake Erie. (*McGill Coll. Herb.*) We have seen no Canadian specimens of this species.

(2736.) **A. purpurea,** Nutt.; Steud. Gram. 134.

On dry hillsides, at Spence's Bridge, B.C., 1883. (*Fletcher.*) Only this station is known at present in Canada.

686. STIPA, Linn. Gen. 90. (FEATHER-GRASS.)

(2737.) **S. avenacea,** Linn.; Gray, Man. Ed. V., 617.

In sandy open pine woods, Point aux Pins, eight miles above Sault Ste. Marie, 1869. (*Macoun.*)

(2738.) **S. comata,** Trin. & Rupr., Stipaceæ, 76.

S. juncea, Nutt., Gen. I., 58.
S. capillata, Hook., Fl. II., 237.
S. occidentalis, Bolander, Proced. Calif. Acad. IV., 169, in part; Macoun, Cat. No., 2151.

Abundant on dry prairies, and extending into British Columbia. Cypress Hills, and Milk River Ridge, Alberta. (*Dawson.*) Abundant at Reed Lake, Fort Walsh, and numerous other localities throughout the prairie region; vicinity of Spence's Bridge, B.C., and on dry rocks near Victoria, Vancouver Island. (*Macoun.*) Along the Fraser, at Lytton, B. C. (*Fletcher.*) Abundant at Kamloops, and Shuswap Lake, B. C. (*Prof. Fowler.*) Fort Carleton, on the Saskatchewan. (*Hooker, Fl.*)

(2739.) **S. Richardsonii,** Link., Hort. Berol. II., 245.

Petitcodiac, N.B. (*Fowler, Cat.*) North shore of Lake Superior, from Michipicotin to Pic River, and Peninsula Harbor. (*Macoun.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Near Edmonton, on the Saskatchewan, and northerly to Lesser Slave Lake. (*Macoun.*)

Var. **major,** N. Var.

Abundant in the foot-hills of the Rocky Mountains, at Morley, and westward to Donald, in the Columbia Valley. (*Macoun.*) This form exactly matches Scribner's No. 341 from Montana, but is quite unlike our northern and eastern specimens.

(2740.) **S. spartea,** Trin.; Gray, Man. Ed. V., 617.

Very abundant on the northern prairie region, forming the "Northern Buffalo Grass" of the Canadian ranchman. Its seeds in the wetter portions are very troublesome, penetrating the wool of sheep and clothing of men, and causing much annoyance. This grass, however, constituted the winter food of the buffalo, and is now the delight of horses in the winter season. It is usually classed with the "bunch" grasses. There is no part of the dry prairie where it does not grow, from Portage la Prairie westward to the Rocky Mountains. (*Macoun.*) Pembina Mountain, and from Winnipeg to Point du Chein, Man. (*Dawson.*) Red River, Man., 1826. (*Douglas.*)

(2741.) **S. viridula,** Trin. Act. Petrp. 39, (1836.)

S. spartea, Hook., Fl. II., 237, not Trin.

S. parviflora, Nutt. I., 58, not Desf.

Very common around badger holes, and in coulées throughout the prairie region and westward to the Pacific. Souris Plain, Man. (*J. M. Macoun.*) White Mud River, and Wood Mountain, Assiniboia. (*Dawson.*) Bank of Souris River, Man. (*Burgess.*) Abundant from Winnipeg to the Rocky Mountains, and westward to the Columbia Valley, at Donald; common around Victoria, on Cedar Hill, and at Oak Bay, Vancouver Island. (*Macoun.*) Banks of the Saskatchewan. (*Hooker, Fl.*)

(2742) **S. Columbiana,** N. Sp.

Closely related to the preceding, but much less in size, with a smaller panicle and an awn scarcely an inch long; glumes purplish, acuminate to a slender point. Yale, B.C.; Cedar Hill, four miles from Victoria, Vancouver Island. (*Macoun.*)

687. ORYZOPSIS, Michx. (MOUNTAIN RICE.)

(2743.) **O. asperifolia,** Michx., Fl. I., 51; Pursh, Fl. I., 60; Hook., Fl. II., 236.

Urachne asperifolia, Trin. Diss. I., 174.
U. leucosperma, Link. Hort. Berol. I., 94.

Rocky woods, not infrequent, and widely extended. Newfoundland. (*Reeks.*) Rocky woods, Truro, and Halifax, N.S. (*Macoun.*) Fredericton Junction, and Port Elgin; Petitcodiac; common at Salmon River, in "blue-berry barrens," N.B. (*Fowler, Cat.*) Madeline River, Gaspé coast, Q. (*Porter.*) Gomin's Wood, Quebec city. (*St. Cyr.*) Woods along Jupiter River, Anticosti. (*Macoun.*) Woods in the vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Miriwin's Woods, near Prescott, Ont. (*Billings.*) Kemptville, Ont. (*Porter.*) Rich, rocky woods throughout central Ontario, westward to Owen Sound, north-westerly to Nipigon River, and south to Port Arthur, and twelve miles up the Kaministiqua River. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Vicinity of Kingston, Ont. (*Prof. Fowler.*) Woods near Toronto. (*Burgess.*) Wooded banks, London, Ont. (*Burgess. Millman.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Not uncommon on dry slopes from the Kananaskis through the Rocky Mountains to the Columbia Valley at Donald, B.C.; near Clinton, and at Soda Creek, on the Fraser, B.C. (*Macoun.*) Canada to the Rocky Mountains. (*Hooker, Fl.*)

(2744.) **O. Canadensis,** Torr. Fl. N. York II., 433.

O. parviflora, Nutt.; Hook., Fl. II., 236.
Stipa juncea, Michx., Fl. I., 54.
S. Canadensis, Poir.; Pursh, Fl. I., 72.
Milium pungens, Torr., Fl. I., 78.
Urachne brevicaudata, Trin. Gen. Pan., 27.

Rather rare in dry sandy and pine woods. Manowin Island, Seven Islands Bay, St. Lawrence River. (*St. Cyr.*) Tadousac, Lower St. Lawrence, Q. (*A. T. Drummond.*) Rocky woods, near Ottawa. (*Fletcher, Fl. Ott.*) Woodlands west of Brockville, Ont. (*Billings.*) Quite common at Chalk River, on the Ottawa, and at North Bay, Lake Nipissing; dry sandy hills at Belleville, and on the Oak Hills, Hastings Co.; very common on Rice Lake Plains, Northumberland Co., Ont. (*Macoun.*) Sandy thickets along Lake Huron, at Southampton, Ont. (*Burgess.*) Twenty-five miles west of Port Arthur, on high dry land. (*Macoun.*) Canada to the Saskatchewan. (*Hooker, Fl.*) South

Kootanie Pass, Rocky Mountains; upper crossing of the Blackwater River, B.C. (*Dawson.*) Occasionally met with on dry gravelly slopes in the Rocky Mountains, from Castle Mountain to Donald in the Columbia Valley; Soda Creek, Fraser River, and Spence's Bridge, B.C. (*Macoun.*)

(2745.) **O. melanocarpa,** Muhl. Gram. 79.

O. asperifolia, Kunth, Enum. I., 176, in part.
Milium racemosum, Smith.; Bigel. Fl. Bost., 25.
Piptatherum nigrum, Torr., Fl. I., 79.
Urachne racemosa, Trin. Diss. I., 174.

Rocky woods, rather rare and local. Woods, vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Miriwin's Woods, near Prescott, Ont. (*Billings.*) Very common amongst Laurentian rocks at Shannonville, and throughout North Hastings, Ont. (*Macoun.*) Jones Falls, Rideau Canal, Ont. (*Millman.*) Wooded hillsides, London, Ont. (*Burgess. Millman.*)

(2746.) **O. cuspidata,** Benth. Journ. Linn. Soc. XIX., 82.

Ericoma cuspidata, Nutt. Gen. I., 40; Macoun, Cat. No. 2143.
Stipa membranacea, Pursh, Fl. II., 728; Hook., Fl. II., 237.
S. hymenoides, Roem. & Schultz. Syst. II., 339.
Urachne lanata, Trin. Panic. 38.
Fendleria rhynchelytroides, Steud. Syn. Gram. 420.

A most beautiful grass, growing in large clumps on sand in the prairie region and British Columbia. White Mud River, Assiniboia, and Milk River Ridge, Alberta. (*Dawson. Burgess.*) Very abundant amongst sand hills at the source of the Qu'Appelle; north of the Cypress Hills; and south of Battleford. (*Macoun.*) Fort Carleton, Saskatchewan River. (*Hooker, Fl.*)

688. MILIUM, Linn. Linn. Gen. 79. (MILLET-GRASS)

(2747.) **M. effusum,** Linn.; Hook., Fl. II., 235.

A fine tall grass, growing in cold damp woods throughout the northern forest region. Wet thickets, Whycocomagh, Cape Breton; and at Salt Lake, and Jupiter River, Anticosti. (*Macoun.*) Richmond, Carleton Co., N.B. (*Fowler, Cat.*) Between Florenceville and Andover, N.B. (*Brittain.*) Nepisiquit Lakes, N.B. (*Hay.*) Island of Orleans, and Thunder River, Q. (*St. Cyr.*) Sugar Bush Lake, Montcalm Co., Q. (*D'Urban.*) Damp woods near Ottawa. (*Fletcher, Fl. Ott.*) Woods, near Prescott, Ont.; common. (*Billings.*) Cold woods, and cedar swamps, central Ontario, westward to Owen Sound, and north-westerly

to Nipigon River, Lake Superior. (*Macoun.*) Komoka, Ont. (*Burgess.*) Wet woods, vicinity of London, Ont. (*Burgess. Millman.*) Neighborhood of Montreal and Quebec. (*Hooker, Fl.*)

689. MUEHLENBERGIA, Schreber. (DROP-SEED)

(2748.) **M. diffusa,** Schreb.; Pursh, Fl. I., 40.

Dilepycum minutiflorum, Michx., Fl. I.,40.

In grassy woodlands along Lake Erie, above the Canal at Port Colborne. (*Macoun.*) Point Pelée, Essex Co., Ont. (*Burgess.*) Vicinity of Hamilton, Ont. (*Buchan.*)

(2749.) **M. glomerata,** Trin.; Hook., Fl. II., 237.

Polypogon glomeratus, Willd. Enum. I., 87.
P. setosus, Spreng. Mant. I., 31.
P. racemosus, Nutt. Gen. I., 51.
Agrostis racemosa, Michx., Fl. I., 53; Pursh, Fl. I., 65.
A. setosa, Muhl. Gram. 68.
Cinna racemosa, Kunth. Enum. I., 207.

Not uncommon in swamps, and along brooks and rivers. Weldford, Kent Co.; Kennebeccasis, N.B. (*Fowler, Cat.*) Petiticodiac, N.B. (*Brittain.*) Becscie River, and Jupiter River, Anticosti; Madeline River, Gaspé, Q. (*Macoun.*) Vicinity of Chelsea, Q. (*Billings.*) Near Ottawa. (*Fletcher, Fl. Ott.*) Marsh near Prescott Junction, Ont. (*Billings.*) Beaver meadows, North Hastings, Ont.; Big Swamp, Murray, Northumberland Co., Ont. (*Macoun.*) Low grounds, London, Ont. (*Burgess. Millman.*) Vicinity of Hamilton, Ont. (*Logie.*) Point between Shib-wah and Batch-ah-wa-nah rivers, Georgian Bay; Michipicotin River, and Oba Lake, Ont. (*R. Bell.*) Wet bank, twenty-five miles up the Kaministiqua River; also frequent on the margins of lakes and swamps throughout the prairie region, and north-west to Peace River; rather rare in the Rocky Mountains, from Morley to Donald in the Columbia Valley, B.C. (*Macoun.*) South Kootanie Pass, Rocky Mountains. (*Dawson.*) Plains of the Saskatchewan to the Rocky Mountains. (*Hooker, Fl.*)

(2750.) **M. Mexicana,** Trin. Diss. I., 189.

Agrostis Mexicana, Linn.; Muhl. Gram. 67; Pursh, Fl. I., 64.
A. lateriflora, Michx., Fl. I., 53; Pursh, Fl. I., 64.
Cinna Mexicana, Link. Enum. I., 71.

Moist meadows and borders of moist thickets. Fredericton; Petitcodiac, N.B. (*Fowler, Cat.*) Simonds, Carleton Co., N.B. (*Brittain.*)

On sandy banks of the Rivière Rouge, Argenteuil Co., Q. (*D'Urban.*) Along the rocks, Major Hill Park, Ottawa. (*Fletcher, Fl. Ott.*) Woods near Prescott Junction, and close to Ottawa. (*Billings.*) Low rich land along Cold Creek, at Wooler, Ont.; frequent in meadows and thickets, Hastings Co.; and at Owen Sound, Ont. (*Macoun.*) Point Edward, St. Clair River, Ont. (*J. M. Macoun.*) Near Kingston, Ont. (*Burgess.*) Swampy meadows, near London, Ont. (*Burgess. Millman.*) Vicinity of Hamilton, Ont. (*Logie.*) Manitoulin Island, Georgian Bay. (*Burgess.*) Along Current River, near Port Arthur, Lake Superior. (*Macoun.*)

(2751.) **M. sylvatica,** Torr. & Gray, Gram. & Cyp. I., No. 13.

Agrostis sylvatica, Torr., Fl. I., 87.
A. diffusa, Muhl. Gram. 64.

Rocky beds of streams and by waterfalls. Low rocky places, Fredericton; Belleisle, King's Co., N.B. (*Fowler, Cat.*) Dideguash River, N.B. (*Hay.*) Abundant along the Moira and Trent rivers, in Hastings and Northumberland Co's., Ont. (*Macoun.*) Rocky banks, Moon River, Muskoka Co., Ont. (*Burgess.*) North shore of Lake Superior. (*Agassiz.*)

(2752) **M. Willdenovii,** Trin. Diss. I., 188.

Agrostis tenuiflora, Willd.; Pursh, Fl. I., 63.
Cinna tenuiflora, Link. Enum. I., 71.

Rocky woods, apparently rare. Rocky banks and woods along the Moira, half a mile above the railway bridge, at Belleville, Ont. (*Macoun.*) Rocky wooded bank of river, Niagara Falls. (*Burgess.*) This species is distinguished from *M. Mexicana* by its long-awned palets, and from *M. sylvatica* by its contracted and very slender panicle and short-pointed glumes.

690. BRACHYELYTRUM, Beauv. Agrostogr. 39.

(2753.) **B. aristatum,** Beauv.; Torr., Fl. I., 102.

Muehlenbergia erecta, Schreb.; Pursh, Fl. I., 61.
M. aristata, Pers.; Hook., Fl. II., 237.
M. Brachyelytrum, Trin. Diss. I., 88.
Dilepycum aristosum, Michx., Fl. I., 40.

Rocky woods, not common. In woods at Truro, and Windsor, N.S. (*Macoun.*) Rocky woods, Molus River, Kent Co., N.B. (*Fowler, Cat.*) Montmorency River, Q. (*St. Cyr.*) Woods at Chelsea, Q. (*Billings.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Woods west of Prescott, Ont. (*Billings.*) Rather common in woods throughout central Ontario.

(*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Rich woods, London Ont.; Moon River, Muskoka Co., Ont. (*Burgess.*) Owen Sound, and woods at Queenston Heights, Ont.; woods along Current River, near Port Arthur, Lake Superior. (*Macoun.*) Canada. (*Goldie.*)

691. PHLEUM, Linn. Gen. 77. (TIMOTHY-GRASS)

(2754.) **P. alpinum,** Linn.; Hook., Fl. II., 234.

P. Hænkeanum, Presl, Rel. Hænk. I., 245.

Jupiter River, Anticosti. (*Macoun.*) Summit of Mount Albert Gaspé, Q. (*Macoun. Porter.*) Fort George, James Bay. (*J. M. Macoun.*) North shore of Lake Superior. (*Agassiz.*) Cypress Hills, and on elevated mountain pastures in the Rocky Mountains, and westward to the summit of the Selkirk Range. (*Macoun.*) Abundant on the Little Bow River, and Porcupine Hills; western summit of the North Kootanie Pass, Rocky Mountains; Ilgacho Lake, B.C.; Lake Lindeman lat. 60°. (*Dawson.*) Cariboo Mountains, alt. 6,000 feet, and Skagi River, B.C. (*Bowman.*) Not rare on mountain slopes at Goldstream and in mountain woods at Nanaimo, and Qualicum, Vancouver Island (*Macoun.*) Sitka, and Ounalashka, Kotzebue Sound, and Island of St. Lawrence. (*Rothr. Alask.*) Summits of the Rocky Mountains (*Hooker, Fl.*) Greenland. (*Lange.*)

(2755.) **P.** PRATENSE, Linn.; Pursh, Fl. I., 65; Hook., Fl. II., 234.

This species is extensively cultivated in every part of Canada, and is found naturalized in all old clearings and around lumber camps and on the forest roads leading to them. It seems as much at home in Newfoundland as in Ontario and Vancouver Island.

692. PHIPPSIA, R. Br., App. Parry Voy. 285.

(2756.) **P. algida,** R. Br.; Hook., Fl. II., 238.

Melville and other Arctic islands. (*Hooker, Fl.*) Pond's Bay Lancaster Sound. (*Dr. Walker.*) Point Barrow, Arctic coast. (*John Murdoch.*) Cape Chudleigh, and Mansfield Island, Hudson Strait (*R. Bell.*) West side of Davis Straits. (*J. Taylor.*)

Var. **monandra,** Kunth.

P. monandra, Trin.; Hook., Fl. II., 238.

Kotzebue Sound, and Bay of St. Lawrence. (*Hooker, Fl.*)

693. SPOROBOLUS, R. Br. (DROP-SEED GRASS.)

(2757.) **S. asperifolius,** Thurber, Bot. Calif. II., 270.

Vilfa asperifolius, Nees. & Meyer, in Trin. Agrost. I., 73.
Sporobolus arenaceus, Buckl. Proced. Acad. Philad. 89, (1862.)

Dry, open prairie, on the east side of Reed Lake, Assiniboia, 1880. (*Macoun.*) Upper valley of the Columbia, near a hot spring, B.C. (*Dawson.*) Chinaman's Ranche, on the Thompson River, B.C. (*Fletcher.*)

(2758.) **S. cryptandrus,** Gray, Man. Ed. II., 542.

Agrostis cryptandra, Torr. Ann. Lyc. N. York, I., 151.
Vilfa cryptandra, Trin. Agrost. I., 47.
V. aspera, Logie, Cat. Hamilton Plants.

On the sands of Presqu'ile Point, Lake Ontario. (*Macoun.*) Along Burlington Beach, near Hamilton, Ont. (*Logie.*) On sand along the lake shore, Toronto Island; Point aux Pins, Lake Erie. (*Burgess.*) Sandy shore, Hamilton, Ont. (*Millman.*) Point Edward, River St. Clair, Ont. (*J. M. Macoun.*) Amongst sand, Stinking Lake, and Mapie Creek, north of Cypress Hills, Assiniboia. (*Macoun.*)

(2759.) **S. cuspidatus,** Scribner, Torr. Bull. IX., 103.

Vilfa cuspidata, Torr.; Hook., Fl. II., 238.
Agrostis cryptandra, Torr. Ann. Lyc. N. York I., 151.

Simonds, Carleton Co., N.B. (*Brittain.*) Rather common on dry prairies, from Manitoba westward to the Rocky Mountains. (*Macoun.*) North Fork of Old Man River, Rocky Mountains. (*Dawson.*) Banks of the Saskatchewan, near the Rocky Mountains, and plains of the Red River. (*Hooker, Fl.*) The limits of this and the next species are so poorly defined that I cannot satisfactorily separate them.

(2760.) **S. depauperatus,** (?) Scribner, Torr. Bull, IX., 103.

Vilfa depauperata, Torr.; Hook., Fl. II., 257.
V. utilis, Torr., Pacif. R. Rep. V., 365.

Amongst gravel along Jupiter River, Anticosti. (*Macoun.*) Hurricane Hills, Assiniboia. (*J. M. Macoun.*) Very common in damp prairie, from Manitoba, Touchwood Hills, and westward and southward across the southern prairie region; damp places in the foot-hills, and westward through the Rocky Mountains to the Columbia Valley, at Donald. (*Macoun.*)

(2761.) **S. heterolepis,** Gray, Man. Ed. V. 610.

Vilfa heterolepis, Gray, Ann. Lyc. N. York III., 233.

Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) On rocks along the railway at Shannonville, Hastings Co.; and at Heely Falls, Seymour, Northumberland Co., Ont.; very common in north-western Manitoba, and along the Beaver, and Touchwood Hills, Assiniboia. (*Macoun.*) East side of La Cloche Island, Georgian Bay. (*R. Bell.*)

(2762.) **S. vaginæflorus,** Vasey, Cat. Grasses. U. S. 45, (1885.)

Vilfa vaginæflora, Torr.; Gray, Man. Ed. V., 605.

Agrostis Virginica, Muhl. Gram. 74.

On dry barren spots near Ottawa. (*Fletcher, Fl. Ott.*) Very common in many places around Belleville, Ont.; and on roadsides near Campbellford, Northumberland Co., Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*)

NOTE.—Dr. Vasey writes of the *Vilfa tenacissima,* Hook., Fl. II., 239:—"This is now considered a variety of *Sporobolus Indicus,* but I have seen no specimen from so far north as Menzies Island." Believing that it is included in some species we have catalogued, we leave it out.

694. AGROSTIS, Linn. Gen. 80. (BENT-GRASS.)

(2763.) **A. canina,** Linn.; Gray, Man. Ed. V., 611.

A. canina, Linn., var. (?) *tenella,* Torr. Bot. N. York II., 443.

Brigus, Newfoundland. (*R. Bell.*) Molus River, Kent Co., N.B.; in dry barrens. (*Fowler, Cat.*) Sandy beach, Mingan River, Q. (*St. Cyr.*) Crevices of rocks, Rivière Ste. Anne des Monts; and summit of Mount Albert, Gaspé, Q. (*Macoun.*) Ounalashka, 1885. (*Mr. S. Applegate.*)

Var. **paleata,** Vasey, (MS.) N. Var.

Abundant in meadows at Cedar Hill, near Victoria, Vancouver Island, 1887. (*Macoun.*) This is a fine grass and seems to be valuable both as a pasture and meadow grass. A variety of *A. canina* was gathered at Sitka a few years since by Mr. Meehan, which may be this form.

(2764.) **A. exarata,** Trin.; Hook., Fl. II., 239.

A. albicans, Buckl. Proced. Acad. Philad. 91, (1862.)

Polypogon alopecuroides, Buckl. l. c. 88.

A very valuable grass in low grounds and meadows on the Pacific

coast. Rather common in the valley of Beaver Creek, Selkirk Mountains, B.C. (*Macoun.*) Blunden Harbor, Vancouver Island, and north point of Texada Island, Gulf of Georgia; Queen Charlotte Islands. (*Dawson.*) The usual form is quite common in meadows everywhere on Vancouver Island, and with it an awnless variety, while the coarse Alaskan form is found in ditches and cold, wet places. (*Macoun.*) Ounalashka, and Sitka. (*Rothr. Alask.*) Sitka, Alaska. (*Meehan.*) Ounalashka, 1885. (*Mr. S. Applegate.*)

(2765.) **A. geminata,** Trin.

Oregon to Alaska. (*Vasey.*) Ounalashka. (*Rothr. Alask.*)

(2766.) **A. microphylla,** Steud.; Torr. Pacif. R. Rep. IV., 154.

A. exarata, var. Watson, Bot. King's Exp. V., 377.

North point of Texada Island, Gulf of Georgia. (*Dawson.*) Abundant in exsicated places at Victoria, Oak Bay, Cedar Hill, Nanaimo, and Qualicum, Vancouver Island. (*Macoun.*) Cadboro Bay, near Victoria, Vancouver Island. (*Fletcher.*)

(2767.) **A. oreophila,** Trin.

On an exposed point of rocks, a few hundred yards east of South West Point Lighthouse, Anticosti, August 17, 1883. The specimens are doubtfully referred here by Dr. Vasey, our highest authority on grasses in America. Dr. Gray in his Manual, page 611, seems to refer this to *A. scabra,* but it cannot be that species as this is perennial (*Macoun.*)

(2768.) **A. perennans,** Tuck; Gray, Man. Ed. V., 611.

A. laxiflora, Rich.; Hook., Fl. II., 240.
Trichodium decumbens, Michx., Fl. I., 42; Pursh, Fl. I., 61.
Cornucopiæ perennans, Walt. Fl. Car. 74.

Open grassy woods, apparently rare. Grand Vallée, Gaspé, Q. (*Macoun.*) Woods near Hull, Q.; and other places near Ottawa. (*Fletcher, Fl. Ott.*) Sandy banks of the Rivière Rouge, Argenteuil Co., Q. (*D'Urban.*) In grassy woods east of Belleville, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Rocky woods, Kingston, Ont. (*Millman.*)

(2769.) **A. scabra,** Willd. Sp. I., 370.

A. laxiflora, Rich.; Hook., Fl. II., 240, in part.
A. Michauxii, Trin.; Gray, Gram. & Cyp. I., 17.
Trichodium laxifolium, Michx., Fl. I., 42; Pursh, Fl. I., 61.
T. scabrum, Muhl. Gram. 61.

A common grass on exsicated places on hills and mountains, and

along rivers and lakes, widely spread and variable; apparently biennial. Newfoundland. (*Reeks.*) Halifax Co., N.S. (*Sommers, Cat.*) Common at Truro, and Halifax, N.S. (*Macoun.*) Common throughout New Brunswick. (*Fowler, Cat.*) Thunder River, Q. (*St. Cyr.*) South West Point, and Jupiter River, Anticosti, and along the Gaspé coast, and at Levis, Q. (*Macoun.*) Vicinity of Tadousac, Q. (*A. T. Drummond.*) Abundant at Ottawa. (*Fletcher, Fl. Ott.*) Very abundant in its usual haunts throughout the whole of northern and central Ontario (*Macoun.*) North shore of Lake Superior. (*Agassiz.*) On an old road, Mamainse, Lake Superior. (*R. Bell.*) Vicinity of Hamilton, Ont. (*Logie.*) Manitoulin Island, Georgian Bay. (*Mrs. Saunders.*) Sandy and wet places, London, Ont. (*Burgess. Millman.*) Saugeen, Lake Huron; Parry Sound, Georgian Bay; Lake of the Woods. (*Burgess.*) Oba Lake, Ont.; Nelson and Hayes rivers, Keewatin. (*R. Bell.*) Lake Mistassini, N.E.T.; Severn River, Keewatin; South Twin Island, James Bay; Washow Bay, Lake Winnipeg; and Souris Plain, Man. (*J. M. Macoun.*) Common at the Lake of the Woods; Milk River Ridge, Alberta; Elk River, Kootanie Valley, Rocky Mountains; Ilgacho Brook, B.C.; and Lake Lindeman, lat. 60°, B.C. (*Dawson.*) Very abundant along all the rivers in the prairie region, and northward to Lake Athabasca; very common in suitable places, Vancouver Island. (*Macoun.*) Ounalashka. (*Rothr. Alask.*) Red River, Man. 1827. (*Douglas.*)

(2770.) **A. varians,** Trin., Agrost. II., 68.

A. exarata, var. *β. minor*, Hook., Fl. II., 239.
A. canina, var. *melaleuca*, Bong.; Hook., Fl. II., 240. (?)
A. Drummondii, Torrey, Ms. (*vide* Hooker.)

Valleys of the Rocky Mountains, on the east and west sides of the dividing ridge. (*Hooker, Fl.*) Trinius founded the species on specimens collected by either Douglas or Drummond on the Athabasca Pass, in the Rocky Mountains. (*Macoun.*) Queen Charlotte Islands. 1878. (*Dawson.*) Sitka. (*Hooker, Fl.*) Greenland. (*Lange.*)

(2771.) **A.** VERTICILLATA, Vill. Delph. II., 74.

Vilfa stolonifera, Hook. & Arn. Bot. Beechy, 161. (?)

Apparently introduced at Victoria and Nanaimo, Vancouver Island. (*Macoun.*)

(2772.) **A. vulgaris,** With.; Hook., Fl. II., 239; Pursh, Fl. I., 63.

A. polymorpha, Trin., var. *β.* Diss. I., 202.
A. hospita, Willd. Sp. I., 370.

Very abundant in pastures and meadows throughout the whole

Dominion of Canada. In the eastern provinces there are both the introduced and indigenous forms, but westward in the Rocky Mountains and British Columbia, especially on Vancouver Island, the indigenous variety is the predominant or only one.

Var. ALBA, Vasey, Cat. Grasses, U. S. 47, (1885.)
A. alba, Linn.; Pursh, Fl. I., 64; Hook., Fl. II., 239.
A. decumbens, Muhl. Gram. 68.

Naturalized in pastures and wet meadows, especially eastward. This and the preceding are invaluable for pasture and permanent meadow land, and are the *Red Top* and *Herd's Grass* of the agriculturalists. Greenland. (*Lange.*)

695. POLYPOGON, Desf. (BEARD-GRASS.)

(2773.) **P.** MONSPELIENSIS, Desf.; Gray, Man. Ed. V., 612.

Waste heaps around Victoria, especially at the head of James Bay, Vancouver Island. (*Fletcher. Macoun.*) Introduced.

(2774.) **P.** LITTORALIS, Smith; Bot. Calif. II., 270.
P. fugax, Boland. Cat. 34.

Refuse heaps at the head of James Bay, Victoria, Vancouver Island. (*Macoun.*) Introduced.

696. ARCTACROSTIS, Griseb. Ledeb. Fl. Ross. IV., 434.

(2775.) **A. latifolia,** Ledeb. Fl. Ross. IV., 434.
Colpodium latifolium, R. Br.; Hook., Fl. II., 238.
Vilfa arundinacea, Trin. Diss. I.

Cape Chudleigh, Cape Prince of Wales, and Mansfield Island, Hudson Strait. (*R. Bell.*) Nottingham Island, Hudson Bay. (*Mackenzie.*) Arctic sea-coast and islands; Hudson Bay; and Bear Lake, to the shores of the Arctic sea. (*Hooker, Fl.*) Port Kennedy, Lancaster Sound. (*Dr. Walker.*) Between Fort Churchill, and Cape Lady Pelly, Hudson Bay. (*Dr. Rae.*) Greenland. (*Lange.*)

Var. **Alaskensis,** Vasey, Cat. Grasses, U. S. 48, (1885.)
Colpodium latifolium, β. Kunth. (?)
C. arundinaceum, Hook., Fl. II., 238. (?)

Kotzebue Sound, and Arctic coast. (*Rothr. Alask.*) Point Barrow, Arctic coast. (*John Murdock.*)

697. CINNA, Linn. Gen. 15. (WOOD-REED GRASS.)

(2776.) **C. arundinacea,** Linn.; Michx., Fl. I., 38.

Muehlenbergia Cinna, Trin.; Hook., Fl. II., 237.
Agrostis Cinna, Pursh, Fl. I., 64.

This species and the next have been confounded and mostly reported as *C. pendula*, but they appear quite distinct. Newfoundland. (*Reeks.*) Near Bedford, Halifax Co., N.S. (*Sommers, Cat.*) Woods along Brigham's Creek, near Hull, Q. (*Fletcher, Fl. Ott.*) Rather rare at Belleville, Ont. (*Macoun.*) Swampy soil, London, Ont. (*Burgess. Millman.*) Vicinity of Hamilton, Ont. (*Logie.*) Saskatchewan. (*Hooker, Fl.*)

(2777.) **C. pendula,** Trin.; Vasey, Cat. Grasses, U. S. 49, (1885.)

C. latifolia, Griesb.; Rothrock's Alaskan Plants, 459.
C. arundinacea, Linn., var. *pendula*, Gray, Man. Ed. V., 613.
Muehlenbergia pendula, Bong.; Hook., Fl. II., 237.

Much commoner than the preceding, and more northern in its distribution. A beautiful and conspicuous grass. Damp woods at Whycocogmah, Cape Breton. (*Macoun.*) In deep shady places, Molus and Bass rivers, N. B. (*Fowler, Cat.*) Dideguash River, N.B. (*Hay.*) Salt Lake, Jupiter River, and Becscie River, Anticosti. (*Macoun.*) Ste. Catherine, Jacques Cartier River, Q. (*St. Cyr.*) Sandy banks of the Rivière Rouge, Argenteuil Co., Q. (*D'Urban.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Banks of Nation River, near railway crossing, and and northward; rare, Prescott, Ont. (*Billings.*) Abundant in low, damp woods, along streams and small brooks, throughout central Ontario; also at Port Hope and Owen Sound, and westward all around Lake Superior to the Nipigon River. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*) Wet woods, London, Ont. (*Burgess. Millman.*) Parry Sound, Georgian Bay. (*Burgess.*) Sault Ste. Marie. (*Fletcher.*) Oba Lake, Ont. (*R. Bell.*) Lake Mistassini, N.E.T. (*J. Richardson.*) Loon Strait, Lake Winnipeg. (*J. M. Macoun.*) Abundant in wet woods, northern Manitoba; Cypress Hills, and northward to Edmonton and Peace River; Columbia Valley, and westward through the valleys of the Selkirk Mountains, B.C. (*Macoun.*) Sitka. (*Hooker, Fl.*)

Var. **mutica,** Vasey.

Polly Banks, lat. 62°, N.W.T., 1887. (*Dawson.*)

Var. **acutiflora,** Vasey. (MS.) N. Var.

Abundant along the borders of brooks, and in river valleys, throughout the southern part of Vancouver Island, extending to Nanaimo, Qualicum, and Comox; also Alberni, on the west coast. (*Macoun.*)

698. DEYEUXIA, Clarion. (REED-BENT GRASS.)

(2778.) **D. æquivalvis,** Benth. & Hook., Gen. Plant III., 1153.

A. æquivalvis, Trin. Agrost. II., 116; Macoun, Cat. No. 2128, b.
A. canina, var. *æquivalvis,* Trin.; Bong. Veg. Sitch. 171.
A. canina, Linn., β. *melaleuca,* Bong.; Hook., Fl. II., 240. (?)
A. Hillebrandii, Thurber; Boland. Trans. Calif. Agri. Soc. 136, (1864.)

Rather common on the grassy beds of snow-slides, at Roger's Pass, Selkirk Mountains, B.C. (*Macoun.*) Sitka, and Ounalashka. (*Rothr. Alask.*) Summits of the Rocky Mountains. (*Hooker, Fl.*)

(2779.) **D. Aleutica,** Vasey, Cat. Grasses, U. S. 50, (1885.)

Calamagrostis Aleutica, Trin.; Hook., Fl. II., 241; Macoun, Cat. No. 2140.
C. albicans, Buckl. Proced. Acad. Philad. 92, (1862.)

Crevices of rocks along the west coast of Vancouver Island and in marshes, covered at high tide, on the Alberni Canal. (*Macoun.*) Queen Charlotte Islands. (*Dawson.*) Sitka. (*Barclay.*) Ounalashka, and Sitka. (*Rothr. Alask. & Hooker, Fl.*) Ounalashka, 1885. (*Mr. S. Applegate.*)

(2780.) **D. breviaristata,** Vasey, Bull. Torr. Club XV., 48, N. Sp.

"Culm 2-3 feet high, radical leaves very long, panicle 4 inches long, narrow and loose, branches unequal, verticills numerous, the longer ones about 1 inch long, erect, flowering, mostly to the base—empty glume 2 lines long, very narrow, acute, membranaceous, scabrous on the keel; flowering glumes as long as the empty ones, and about the same texture, lanceolate, acutish, 3 nerved, smoothish; awn from about the middle, shorter than the fl. gl. or sometimes nearly absent; hairs rather sparse and fine, $\frac{1}{3}$ to $\frac{1}{2}$ as long as the fl. gl., those of the pedicel scanty but longer; palet as long as its glume, acute."

In crevices of rocks amongst the islands in the outer part of Barclay Sound, near Cape Beale, Vancouver Island. (*Macoun.*)

(2781.) **D. Canadensis,** Hooker, Arc. Pl. 307 & 308.

Calamagrostis Canadensis, Beauv.; Hook., Fl. II., 240; Macoun, Cat. No. 2135.
C. Mexicana, Nutt. Gen. I., 46.
C. Purshii, Kunth, Enum. I., 208.
Arundo Canadensis, Michx., Fl. I., 73; Pursh, Fl. I., 86.
A. cinnoides, Muhl. Gram. 187.
A. agrostoides, Pursh, Fl. I., 86.

An abundant and valuable species extending from Newfoundland and the Atlantic provinces throughout the whole northern and central forest region, and Rocky Mountains and British Columbia, to the islands on the Pacific coast and north to Alaska.

(2782.) **D. confinis,** Kunth; Vasey, Grasses of U. S. 28, (1883.)

Calamagrostis confinis, Nutt. Gen. I., 46.
C. inexpansa, Gray, Gram. & Cyp. I., No. 20.
Arundo confinis, Willd. Enum. I., 127.

Chiefly included by collectors in *D. neglecta* or *Calamagrostis stricta.* Vicinity of Hamilton, Ont. (*Logie.*) Rocky woods, Elziver, North Hastings, Ont.; woods along the North Saskatchewan, above Fort Carleton, and at Edmonton, lat. 53°; on gravel at Kananaskis station, Rocky Mountains; shores of Horne Lake, and Cameron Lake, Vancouver Island. (*Macoun.*)

(2783.) **D. crassiglumis,** Vasey, Cat. Grasses, U. S., 50, (1885.)

Calamagrostis crassiglumis, Thurber, Bot. Calif. II., 281.

Nimpkish or Karmutzen Lake, Vancouver Island. (*Dawson.*) In gravel along the shores of Horne Lake, near Qualicum, Vancouver Island. (*Macoun.*)

(2784.) **D. deschampsioides,** Vasey, Cat. Grasses U. S. 50, (1885.)

Calamagrostis deschampsioides, Trin. Spec. Gram. III., 354.

California to Alaska. (*Vasey.*) We know nothing of this species.

(2785.) **D. Langsdorffii,** Kunth, Gram. I., 77.

Calamagrostis Langsdorffii, Trin.; Macoun, Cat. No. 2136.
C. Oregonensis, Buckl. Proced. Philad. Acad., 92, in part, (1862.)

Magdalen Islands, Gulf of St. Lawrence. (*McKay.*) Low grounds at Whycocomagh, Cape Breton. (*Macoun.*) Campbellton, N.B. (*Chalmers.*) Thunder River, Q. (*St. Cyr.*) Salt Lake, Anticosti; Current River, near Port Arthur, Lake Superior. (*Macoun.*) Port Arthur. (*Burgess.*) Fort George, James Bay. (*J. M. Macoun.*) North end of

Lake Winnipeg, and west coast of Hudson Bay. (*R. Bell.*) Upper Nachacco River, B.C. (*Dawson.*) Shores of Shawnigan Lake, Vancouver Island. (*Macoun.*) Kotzebue Sound. (*Rothr. Alask.*) Queen Charlotte Islands. (*Dawson.*) Fort Wrangel, Alaska. (*Meehan.*) Ounalashka, 1885. (*Mr. S. Applegate.*)

(2786.) **D. Lapponica,** Kunth; Vasey, Cat. Grasses U. S. 51, (1885.)

Calamagrostis Lapponica, Gray, Man. Ed. V., 682; Macoun, Cat. No. 2141.

Isle Royal, Lake Superior. (*Prof. T. C. Porter.*) Salt Lake, Anticosti; Otter Head, and Pic River, Lake Superior; Flat Rock Portage, Nipigon River, Ont. (*Macoun.*)

(2787.) **D. Macouniana,** Vasey, Coulter's Bot. Gaz., X., 297, N. Sp.

"Culm 60 to 90 cm. high, slender, leafy; sheaths mostly as long as as the internodes, smoothish; ligule about 2 mm. long, lacerate leaf blades narrow, 15 to 25 cm. long, attenuated to a filiform point; panicle 10 to 12 cm. long, narrow, open, 2 to 4 cm. in width, branches mostly in fives, approximate, slender, erect; spikelets somewhat crowded on the upper part of the branches, 2 mm. long; empty glumes nearly equal, purplish, lanceolate, acute, finely scabrous on the back; flowering glumes 1½ mm. long, ovate-oblong, somewhat truncate and 2-lobed at the apex, the lobes finely denticulate; awn above the middle of the glume, straight, reaching to the apex; palet about one-third shorter than its glume, bifid, denticulate at apex; hairs copious, as long as the flowering glume. The panicle resembles that of *Agrostis vulgaris,* and the flowers are smaller than those of any other of our species."—(Dr. Geo. Vasey in Bot. Gazette, Vol. X., page 297.) Black River, Lake Winnipeg, 1884; Souris Plain, Man. 1883. (*J. M. Macoun.*)

(2788.) **D. neglecta,** Kunth, Gram. I., 76.

D. stricta, Coulter, Man. Ry. Mount. Pl., 414.
Calamagrostis coarctata, Hook., Fl. II., 240.
C. stricta, Beauv.; Hook., Fl. II., 240; Macoun, Cat. No. 2138.

Borders of rivers and lakes in the east, and in swampy meadows on the prairie. Amherst Island, Magdalen Islands. (*J. Richardson.*) Shediac, N.B. (*Fowler, Cat.*) Becscie River, Anticosti; and at Cape Rosier, Gaspé coast, Q. (*Macoun.*) Ellis Bay, Anticosti. (*St. Cyr.*) Shore of Lake Huron, at Chicken Bay. (*Macoun.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) York Factory, Hudson Bay. (*R. Bell.*) Abundant in wet prairie throughout Manitoba and the northern prairie region, and north-westerly through the wooded country to

the Peace River; common along slopes and by ponds through the Rocky and Selkirk mountains, and in northern British Columbia. (*Macoun.*) Pelly Banks, lat. 62°; and confluence of Lewes and Pelly rivers, lat. 62° 47', N.W.T. (*Dawson.*) Kotzebue Sound. (*Rothr. Alask.*) Quebec; Saskatchewan and English rivers, through the wooded country to the Rocky Mountains; Nootka, and Observatory Inlet, Pacific coast. (*Hooker, Fl.*) Red River, Man., 1827. (*Douglas.*)

Var. **Americanum,** Vasey. (MS.) N. Var.

This is a very beautiful form, stouter and much lighter colored than the species. Rather common at Donald in the Columbia Valley, 1885. (*Macoun.*)

Var. **brevifolia,** Vasey. (MS.) N. Var.

This variety, as its name indicates, has short involute leaves and a narrow panicle. It is a little over a foot in height and may be only a depauperate form of the species. (*Macoun.*) Pelly Banks, lat. 62°, N.W.T., 1887. (*Dawson.*) Damp slopes, near McLeod's Lake, lat. 55°, B.C. (*Macoun.*)

Var. **robusta,** Vasey. (MS.) N. Var.

A very tall and stout variety growing in water or along the borders of marshes throughout Manitoba and the Saskatchewan region; Hand Hills, Alberta. (*Macoun.*) Souris Plain, Man. (*J. M. Macoun.*)

(2789.) **D. Pickeringii,** Vasey, Cat. Grasses, U. S. 51, (1885.)

Calamagrostis Pickeringii, Gray, Man. Ed. V., 616; Macoun, Cat. No. 2142.

The only known station for this species in Canada is in the wet meadows surrounding Louisburg, Cape Breton, 1883. (*Macoun & Burgess.*)

(2790.) **D. Porteri,** Vasey, Cat. Grasses, U. S. 51, (1885.)

Calamagrostis Porteri, Gray, Man. Ed. V., 615.

Specimens referred here by Dr. Vasey were collected on the slopes of the mountains at the entrance to Bow River Pass, in the Rocky Mountains, 1879. Better specimens are needed to settle the identity of the species. (*Macoun.*)

(2791.) **D. purpurascens,** Kunth; Vasey, Cat. Grasses U.S. 51, (1885.)

Calamagrostis purpurascens, R. Br.; Hook., Fl. II., 240.

Arctic sea-shore. (*Hooker, Fl.*) Fort Yukon. (*Rothr. Alask.*) Greenland. (*Lange.*) Dr. Vasey, writes me that Torrey thought this was *D. sylvatica.* I am of the same opinion, as the purple glumes are a very poor character.

(2792.) **D. rubescens,** Vasey, Cat. Grasses, U. S. 51, (1885.)

Calamagrostis rubescens, Buckl. Proced. Phil. Acad., 92, (1862.)

Quite common on burnt slopes in the Rocky Mountains, from Banff westward to Roger's Pass, Selkirk Mountains, B.C. (*Macoun.*)

(2793.) **D. strigosa,** Kunth; Vasey, Cat. Grasses U.S. 51, (1885.)

Calamagrostris strigosa, Bong.; Hook., Fl. II., 241.

Sitka. (*Bongard* vide *Hooker.*)

(2794.) **D. sylvatica,** Kunth; Vasey, Grasses of U. S. 51, (1885.)

Calamagrostis sylvatica, DC.; Macoun, Cat. No. 2137.
C. purpurascens, R. Br.; Hook., Fl. II., 240, in part.

Apparently a mountain species, extending far to the north. Old Bow Fort, near Morley, (1879), and very common westward on dry gravelly slopes through the Rocky Mountains to Roger's Pass, in the Selkirks, B.C. (*Macoun.*) Crow Nest Pass, Rocky Mountains; Lewes River, lat. 62°, Pelly Banks, lat. 62°, and Dease River, lat. 59°, N.W.T., and B.C. (*Dawson.*) Bennett's Lake, Lewes R., B.C. (*W. Ogilvie.*) Rocky Mountains. (*Hooker, Fl.*)

(2795.) **D. Suksdorfii,** Scribner, Bull. Torr. Club XV., 9.

This is an uncommon grass on the burnt ridges covered with *Pinus Murrayana* at Castle Mountain, Rocky Mountains; and Donald, Columbia Valley. (*Macoun.*) South Kootanie Pass, Rocky Mountains, 1883. (*Dawson.*)

(2796.) **D. borealis.**

An imperfectly characterized species, having the general appearance of *D. Lapponica,* has been named (by Dr. Vasey) *D. Vancouverensis,* in Bulletin Torrey Botanical Club, Vol. XV., 48. It is indicated as a "small species, 10 or 12 inches high, with spicate panicle 1½ to 2 inches long, approaching *D. strigosa,* Kunth." It grows plentifully in water at Fort George, James Bay. Collected July 1887. (*J. M. Macoun.*) With Dr. Vasey's permission I have changed the name to the above, which is more in accordance with the locality where found.

(2797.) **D. Columbiana.**

This species is related to *D. Aleutica,* but the specimens are very poor and difficult to characterize. Collected at Ta-gish Lake, Lewes River, N.W.T., Sept. 1887. (*Dawson.*)

699. AMMOPHILA, Host. Gram. Austr. IV., 24. (SAND-GRASS.)

(2798.) **A. arundinacea,** Host.; Hook., Fl. II., 241.

Arundo arenaria, Linn.; Michx., Fl. I., 73; Pursh, Fl. I., 87.

Psamma littoralis, Beauv. Agrost. 143.

Calamagrostis arenaria, Trin.; Gray, Man. Ed. V., 616; Macoun, Cat. No. 2139.

Apparently a rare grass on sea beaches and on the shores of the Great Lakes. St. John, and Kouchibouguac, N.B. (*Fowler, Cat.*) Sands of Wellington Beach, Prince Edward Co., Ont.; very abundant on sand at Pic River, Lake Superior. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*)

(2799.) **A. longifolia,** Benth. & Hook. Gen. Plant III., 1153.

Calamagrostis longifolia, Hook., Fl. II., 241; Macoun, Cat. No. 2134.

Very abundant throughout the whole prairie region on sandy ridges, and extending westward to Morley at the base of the Rocky Mountains. (*Macoun.*) Milk River, north of West Butte, lat. 49. (*Dawson.*) Souris Plain, Assiniboia. (*J. M. Macoun.*) Saskatchewan River. (*Hooker, Fl.*) I place this species with *Ammophila*, in deference to Bentham and Hooker. Dr. Vasey doubts the correctness of this disposition of it.

700. AIRA, Linn. Gen. 81. (HAIR-GRASS.)

(2800.) **A.** CARYOPHYLLEA, Linn.; Gray, Man. Ed. V., 642.

Introduced and naturalized and very abundant in all the old clearings and oak woods in the southern part of Vancouver Island. (*Macoun. Fletcher.*)

(2801.) **A.** PRÆCOX, Linn.; Gray, Man. Ed. V., 641.

Avena præcox, Beauv.

Introduced and naturalized with the preceding in the southern part Vancouver Island. (*Macoun. Fletcher.*)

701. DESCHAMPSIA, Beauv.

(2802.) **D. atropurpurea,** Scheele; Vasey, Cat. Grasses U. S. 53, (1885.)

Aira atropurpurea, Wahl.; Gray, Man. Ed. V., 642; Macoun, Cat. No. 2234.

Apparently confined to the mountains of eastern Quebec, and northeastward. Summit of Mount Albert, Shickshock Mountains, Q. (*Macoun. Porter.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*)

Var. **minor,** Vasey, Bull. Torr. Club XV., 48.

"Culms 10–12 inches high, slender, panicle few-flowered, spikelets much smaller than the type." Grassy glades in woods at Fort George, James Bay, six miles from the coast, 1887. (*J. M. Macoun.*)

Var. **latifolia,** Scribner.

D. latifolia, Vasey, Grasses of U. States, 53, (1885.)
Aira atropurpurea, Wahl.; Hook., Fl. II., 243.
A. latifolia, Hook., Fl. II., 243; Macoun, Cat. No. 2237.

Abundant in the Rocky Mountains, from Canmore westward to Roger's Pass, Selkirk Mountains. (*Macoun.*) Quesnel Lake, 2,200 feet alt., B.C. (*Bowman.*) Rocky Mountains. (*Hooker, Fl.*) Sitka, Ounalashka, and from Point Barrow to Mackenzie River. (*Rothr. Alask.*)

(2803.) **D. brevifolia,** R. Br.; Hook., Fl. II., 242.

Aira arctica, Spreng. Bot. Gazette, X., 366.

Vicinity of Fort Conger, Grinnell Land, lat. 81° 44′. (*Lieut. Greely.*) Arctic sea-shore and islands. (*Hooker, Fl.*) Greenland. (*Lange.*)

(2804.) **D. cæspitosa,** Beauv.; Hook., Fl. II., 242.

Aira cæspitosa, Linn.; Pursh, Fl. I., 77; Macoun, Cat. No. 2239.
A. ambigua, Michx., Fl. I., 61.

Abundant in bunches along river banks, from the Atlantic to the Pacific. Newfoundland. (*Rev. A. Waghorne.*) Magdalen Islands, N.S. (*McKay.*) Cape Forteau, Yarmouth, N.S. (*Macoun & Burgess.*) Kennebeccasis, Tabusintac, on the Bathurst Road, Restigouche, N. B. (*Fowler, Cat.*) Sheldrake River. and L'Ange-Gardien, Q. (*St. Cyr.*) Crevices of rocks, Jupiter River, and English Bay, Anticosti; along the Madeline and Ste. Anne des Monts rivers, Gaspé, Q. (*Macoun.* Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Rocky banks of rivers throughout central and northern Ontario, and extending to Lake

Nipigon, and Rainy Lake. (*Macoun.*) Saugeen, Lake Huron, and at Port Arthur, Lake Superior. (*Burgess.*) Lake Mistassini, N.E.T.; Severn River, Keewatin; Moose Mountain Creek, Assiniboia. (*J. M. Macoun.*) Michipicotin River, and Oba Lake, Ont.; Oxford House, Keewatin. (*R. Bell.*) North Fork of Old Man River, Rocky Mountains; Lewes River, lat. 62°, and Pelly Banks, lat. 62°, N. W. T. (*Dawson.*) Not rare along the Saskatchewan and all its branches, and extending north to Peace River, and west through the Rocky Mountains to the Columbia Valley. (*Macoun.*) Saskatchewan to Bear Lake. (*Hooker, Fl.*) Ounalashka, and the mainland of Alaska. (*Rothr. Alask.*)

Var. **arctica,** Vasey, Cat. Grasses U.S. 53, (1885.)

D. cæspitosa, var. *β. major,* Hook., Fl. II., 241.

Arctic sea-coast. (*Hooker, Fl.*) Kotzebue Sound, Ounalashka, Sitka, and the interior of Alaska. (*Rothr. Alask.*)

Var. **Bottnica,** Vasey, Cat. Grasses U.S. 53, (1885.)

D. Bottnica, Wahl.; Trin. Icon. t. 255.

Shores of the Gulf of Georgia, and Queen Charlotte Islands. (*Dawson.*) Sitka. (*Rothr. Alask.*) Port Etches, Alaska. (*Barclay.*)

Var. **longiflora,** Trin.; Vasey, Cat. Grasses U.S. 53, (1885.)

Abundant in salt marshes at the mouth of the Nanaimo River, and along all the coasts of Vancouver Island, either under this form or the preceding one. (*Macoun.*) Ounalashka. (*Rothr. Alask.*) Vancouver city, B.C. (*Prof. Fowler.*) Queen Charlotte Islands, B.C. (*Dawson.*)

Var. **maritima,** Vasey, Bull. Torr. Club, XV., 48, (N. Var.)

This is a very depauperate form, only 6–8 inches high, collected on the South Twin Island, James Bay, by J. M. Macoun, 1887.

(2805.) **D. calycina,** Presl, Rel. Hænk. I., 251.

D. danthonioides, Munro; Benth. Pl. Hartweg. 342.

Aira danthonioides, Trin.; Hook., Fl. II., 243; Macoun, Cat. No. 2240.

Abundant in desicated places near Victoria, on Mount Tolmie, Cedar Hill, at Goldstream, and Nanaimo, Vancouver Island. (*Macoun.*)

(2806.) **D. elongata,** Munro.; Benth. Pl. Hartweg. 342.

Aira elongata, Hook., Fl. II., 243; Macoun, Cat. No. 2235.

Abundant in numerous places on dry gravelly soil throughout the southern part of Vancouver Island, at Cedar Hill, Goldstream, Chemainus, Nanaimo, Qualicum, and Alberni. (*Macoun.*) Near Victoria, Vancouver Island. (*Fletcher.*)

(2807.) **D. alba,** Rœm. & Schultz. Syst. II., 688.

Aira flexuosa, Linn.; Pursh, Fl. I., 77; Hook., Fl. II., 243; Macoun, Cat. No. 2238.

Not rare on rocky soil in the eastern part of Canada. Newfoundand. (*Reeks.*) Ungava Bay, Labrador. (*Barnston.*) Nain, coast of Labrador. (*R. Bell.*) Near Bedford, Halifax Co., N.S. (*Sommers, Cat.*) Abundant at Kingston, Pirate's Cove, and near Halifax, N.S. (*Macoun.*) Rocky banks, Yarmouth, N.S. (*Burgess.*) On rocks near the mouth of the Kennebeccasis, N.B. (*Fowler, Cat.*) Ellis Bay, Anticosti. (*St. Cyr.*) Tadousac River, St. Lawrence, Q. (*A. T. Drummond.*) Mount Albert, Shickshock Mountains, Gaspé, Q. (*Macoun. Porter.*) Pine grove, two miles west of Prescott, Ont. (*Billings.*) Rocky banks of North River, Belmont, Peterboro Co.; crevices of rocks, Hooper's Lake, Hasting's Co.; Jones Falls, near Owen Sound; among rocks, Queenston Heights, Niagara River; Little Flat Rock Portage, Nipigon River; along Thunder Bay, at Port Arthur, and twenty miles up the Kaministiqua, west of Lake Superior. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Greenland. (*Lange.*)

702. HOLCUS, Linn. Gen. 1146. (MEADOW SOFT-GRASS)

(2808.) **H.** LANATUS, Linn.; Gray, Man. Ed. V., 642.

Introduced from Europe and cultivated in the maritime provinces and British Columbia. Moist meadows and roadsides at Digby, and Annapolis, N.S. (*Macoun.*) Meadows, near London, Ont. (*Burgess. Millman.*) Not uncommon at Cedar Hill, and Goldstream, Vancouver Island. (*Macoun.*)

703. TRISETUM, Pers. Syn. Pl. I., 97.

(2809.) **T. canescens,** Buckl. Proced. Acad. Philad. 100, (1862.)

T. elatum, Boland. Cat. 34.

Not uncommon on rocky soil in the southern part of Vancouver Island, at Cedar Hill, Goldstream, Nanaimo, and Horne Lake, near Qualicum. (*Macoun.*) Near Sooke, Vancouver Island. (*Dawson.*) At Agassiz Station, B.C. (*Fletcher.*)

(2810.) **T. cernuum,** Trin.; Hook., Fl. II., 244.

Abundant in grassy and damp woods at Oak Bay, Cedar Hill, and

Nanaimo, Vancouver Island. (*Macoun.*) Mount Finlayson, and Sooke, Vancouver Island. (*Fletcher.*)

(2811.) **T. subspicatum,** Beauv.; Hook., Fl. II., 244.

T. airoides, Rœm. & Schultz.

Rocky margins of cliffs and ravines from Morley westward through the Rocky and Selkirk mountains, and northward in British Columbia to Fort McLeod, lat. 55°. (*Macoun.*) Eastern summit of North Kootanie Pass, Rocky Mountains; Upper Liard River, lat. 60°, Pelly Banks, lat. 62°, Frances Lake, Finlayson Lake, and hills north of that lake, N.W.T. (*Dawson.*) Ounalashka, and Kotzebue Sound; and from Point Barrow to Mackenzie River. (*Rothr. Alask.*) Greenland. (*Lange.*)

(2812.) **T. subspicatum,** Beauv., var. **molle,** Gray, Man. Ed. V.

T. molle, Trin. Mem. Acad. St. Petersb. 64, (1831.)
Arena mollis, Michx., Fl. I., 72; Pursh, Fl. I., 86.

Very common on rocky banks of rivers and lakes particularly northward. Nain, coast of Labrador; Cape Chudleigh, Cape Prince of Wales, and Digge's Island, Hudson Strait; Port Churchill, Hudson Bay. (*R. Bell.*) Newfoundland. (*Reeks.*) On rocky banks, Restigouche River; Upper Gaspereaux and Upper St. John rivers, N. B. (*Fowler, Cat.*) Manowin Island, Seven Islands Bay, and Grand Isle, Mingan, Q. (*St. Cyr.*) Rivière de Brig, and Jupiter River, Anticosti, Madeline river, Gaspé, Q.; crevices of rocks, Partridge Lake, Addington Co.; sand hills, near Port Hope; and at Oak Hill Pond, Hastings Co.; along Gull River, Victoria Co.; very abundant around Lake Superior and Lake Nipigon. (*Macoun.*) Along the north shore of Lake Superior. (*Agassiz.*) Shore of James Bay north to Cape Jones; Severn River to Hudson Bay, and north to York Factory. (*J. M. Macoun.*) Michipicotin River, Ont. (*R. Bell.*) Middle Branch of North Fork of Old Man River, Rocky Mountains; Skagit summit, Hope trail, B.C. (*Dawson.*) On damp slopes throughout the Rocky and Selkirk mountains; on the summit of Mount Mark, Vancouver Island. (*Macoun.*) Rocky Mountains to the Arctic sea-shore and islands. (*Hooker, Fl.*)

704. AVENA, Linn. Gen. 91. (OAT-GRASS.)

(2813.) **A.** FATUA, Linn. (Wild Oats.)

This species is reported from many parts of Ontario and Manitoba, but the only specimen we have ever seen of it is from Moosomin, in Assiniboia. It makes very good fodder, but as a grain is of no value.

(2814.) **A. pratensis,** var. **Americana,** Scribner.

A. versicolor, Vill.; Hook., Fl. II., 244.

Abundant on the prairie, from Portage la Prairie westward to the boundary of Manitoba. (*Macoun.*) Souris Plain, near Moose Mountain, Assiniboia. (*J. M. Macoun.*) On gravelly banks around Morley, in the foot-hills of the Rocky Mountains. (*Macoun.*) Rocky Mountains. (*Hooker, Fl.*) Brandon, Man. (*Prof. Fowler.*)

(2815.) **A. striata,** Michx., Fl. I., 27; Pursh, Fl. I., 86; Hook., Fl. II., 244.

Rather uncommon in woods and thickets over a wide area. Bass River, Tabusintac, on Bathurst Road; Upper St. John, and Petitcodiac, N. B. (*Fowler, Cat.*) St. Remi, Q. (*McGill Coll. Herb.*) Mount Albert, Gaspé, Q. (*Porter.*) Common in woods at Ottawa. (*Fletcher, Fl. Ott.*) Miriwin's Woods, near Prescott, Ont.; rather rare. (*Billings.*) Mount Albert, Gaspé, Q.; Carleton Place, near Ottawa; quite common in rocky woods at Belleville, Ont.; woods, Red Bay, Lake Huron. (*Macoun.*) Lake Medad, near Hamilton, Ont. (*Logie.*) Rich wooded banks, London, Ont. (*Burgess. Millman.*) Lake Nipigon, and on dry places generally around Lake Superior, and westward up the Kaministiqua. (*Macoun.*) Emerson, Man. (*Burgess.*) Winnipeg, and North West Angle road, Man. (*Dawson.*) Portage la Prairie, and westward to Fort Ellice; rather uncommon on the lower slopes of the Rocky Mountains, from Canmore westward to the Columbia Valley. (*Macoun.*) Montreal to the Rocky Mountains. (*Hooker, Fl.*) Red River, Man., 1827. (*Douglas.*)

(2816.) **A.** ANNUA, Linn. (Cultivated Oat.)

Successfully grown in every part of Canada, and producing enormously in the prairie region and British Columbia. It is cultivated as far north as Fort Norman, at the mouth of Great Bear Lake River, lat. 65°, long. 123°, west.

705. Arrhenatherum, Beauv. (OAT-GRASS.)

(2817.) **A.** AVENACEUM, Beauv.; Gray, Man. Ed. V., 642.

Cultivated on lawns and sometimes in meadows. Kingston, Ont. (*Millman.*) Lawns at Belleville, Ont. (*Macoun.*) Sandy meadows, London, Ont. (*Burgess.*) Cadboro Bay, and Cedar Hill, Vancouver Island. (*Macoun.*)

706. DANTHONIA, DC. (WILD OAT-GRASS.)

(2818.) **D. Californica,** Bolander, Proc. Calif. Acad. II., 182.

Rather common in tufts at Old Wives Lakes, east end of Red Deer Lakes, and west of Calgary, through the foot-hills of the Rocky Mountains to Canmore, within the mountains; rather common on dry soil around Cedar Hill, and throughout the southern part of Vancouver Island, and Nanaimo, Qualicum, and Alberni. (*Macoun.*) North point of Texada Island, B.C. (*Dawson.*) Near Victoria, Vancouver Island. (*Fletcher.*) The Vancouver Island form is between the species and *D. unispicata*, and seems to unite them.

(2819.) **D. intermedia,** Vasey.

A most interesting grass in its peculiar range and change of habit. Along Jupiter River, Anticosti; summit of Mount Albert, Gaspé, Q., alt. 4,000 feet; very abundant in the prairie region, from Portage la Prairie westward to the source of the Qu'Appelle; on the Cypress Hills, and from Calgary westward through the Bow River Pass, Rocky Mountains, to the Columbia Valley; at Goldstream, Wellington Mine, Departure Bay, summit of Mount Mark, near Qualicum, and on rocks along Barclay Sound, Vancouver Island. (*Macoun.*) Prairies at Emerson, Man. (*Burgess.*) Red River, Man., 1827. (*Douglas.*)

(2820.) **D. spicata,** Beauv.; Hook., Fl. II., 244.

Avena spicata, Linn.; Pursh, Fl. I., 86.
A. glumacea, Michx., Fl. I., 73.

Dry sandy woods, from the Atlantic to the Pacific; not rare but local. Dry banks, Pictou, N.S. (*Macoun & McKay.*) Baddeck, Cape Breton. (*Burgess.*) Dry soil, Glenelg, Guysboro Co., N.S. (*Faribault.*) Dry barrens; common at Bass River, N.B. (*Fowler, Cat.*) Tobique River, N.B. (*Hay.*) Montmorency River, Q. (*St. Cyr.*) Tadousac, Q. (*A. T. Drummond.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Abundant in sandy meadows and almost everywhere around Prescott, Ont. (*Billings.*) Very common on all dry and sandy soils at Belleville, and westward to Red Bay, Lake Huron. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Sandy woodlands, London, Ont. (*Burgess. Millman.*) Lake of the Woods. (*Burgess.*) Little Flat Rock Portage, Lake Nipigon; twenty-five miles up the Kaministiqua, and on sandy soil around Lake Superior; Red Deer River, lat. 53°, Man.; rather common in the Rocky Moun-

tains, at Hector, and on dry slopes, Columbia Valley; sandy woods, Nanaimo, and at Sproat Lake, Alberni, Vancouver Island. (*Macoun.*)

Specimens approaching *D. sericea* were gathered at Saugeen, Ont., by Dr. Burgess, and by myself at Red Bay, Lake Huron, and Red Deer River, Man. The Vancouver Island specimens approach *D. intermedia*, and it seems to me that further examination will reveal the existence of intermediate forms uniting all three in one multiform species.

(2821.) **D. unispicata,** Munro. in Herb.

D. Californica, var. *unispicata*, Thurber, Bot. Calif. II., 294.

Not uncommon on the south and south-western slopes of the Cypress Hills, Alberta. (*Macoun.*) Vancouver Island. (*Fletcher.*)

707. CYNODON, Pers. (BERMUDA GRASS.)

(2822.) **C.** DACTYLON, Pers.; Gray, Man. Ed. V., 622.

Introduced on ballast heaps and becoming naturalized at Nanaimo, Vancouver Island. (*Macoun.*)

708. SCHEDONNARDUS, Steud. Syn. Pl. Glum. I., 146

(2823.) **S. Texanus,** Steud.; Vasey, Cat. Grasses U. S. 61, (1885.)

Lepturus paniculatus, Nutt.; Macoun, Cat. No. 2215.

On dry slopes at Old Wives Lakes, and Eagle Creek, near the Bad Hills, Assiniboia. (*Macoun.*) Milk River, Alberta. (*Burgess.*) Near Wood Mountain, Assiniboia. (*Dawson.*) Turtle Mountain, Man. (*Millman.*)

709. BOUTELOUA, Lagasca. "GRAMA GRASS."

(2824.) **B. hirsuta,** Lag.; Gray, Man. Ed. V., 621.

B. fœna, Torr.

Apparently rare in the prairie region or more probably overlooked Only noticed south of the Cypress Hills, Alberta. (*Macoun.*)

(2825.) **B. oligostachya,** Torr.; Gray, Man. Ed. V., 621.
Atheropogon oligostachyum, Nutt., Gen. I., 78.
Chondrosium oligostachyum, Torr. in Marcy's Rep., 300.
Eutriana oligostachyum, Kunth; Hook., Fl. II., 242.

Abundant on the dry prairie from Winnipeg westward to the Rocky Mountains, and especially southward of the Canadian Pacific Railway. (*Macoun.*) Plains of the Saskatchewan to the Rocky Mountains. (*Hooker, Fl.*) Turtle Mountain, Man.; and Côteau de Missouri, Assiniboia. (*Burgess.*)

(2826.) **B. racemosa,** Lag.; Vasey, Cat. Grasses U.S. 63, (1885.)
B. curtipendula, Gray, Man. Ed. V., 621.
Chloris curtipendula, Michx., Fl. I., 159.
Atheropogon apludoides, Wahl.; Pursh, Fl. I., 75.
Eutriana curtipendula, Trin. Diss. I., 243.
Cynosurus secundus, Pursh, Fl. II., 728.

A very rare and beautiful species, on rocky banks. On dry limestone rocks at Heely Falls, River Trent, Northumberland Co.; rocky bank along the Grand Trunk Railway, east of Shannonville Station, Hastings Co., Ont. (*Macoun.*) Fort Garry, Man. (*Burgess.*) Stony Mountain, Man. (*Fletcher.*)

710. PHRAGMITES, Trin. (REED-GRASS.)

(2827.) **P. communis,** Trin.; Hook., Fl. II., 241.
Arundo Phragmites, Linn.; Pursh, Fl. I., 86.

In ponds and marshes and by lake margins, from the Atlantic westward to the Pacific. At Truro, and Windsor, N.S. (*Macoun.*) Restigouche, St. Stephen, and Sackville, N.B. (*Fowler, Cat.*) Restigouche River, opposite Campbellton, N.B.; also Jupiter River, Anticosti. (*Macoun.*) Prescott and Ottawa railway bridge, Ottawa. (*Fletcher, Fl. Ott.*) Along the railway, four miles from Prescott Junction, Ont. (*Billings.*) Abundant in marshes along the Bay of Quinte, at Belleville, and all marshes in central Ontario, and westward to Lake Huron, at Red Bay and Owen Sound; also fifteen miles up the Kaministiqua, west of Port Arthur. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Marshes along Lake Ontario, at Kingston, Ont. (*Millman.*) Michipicotin River, and Lonely Lake, Ont. (*R. Bell.*) Grassy Narrows, Lake Winnipeg. (*J. M. Macoun.*) Abundant in marshes north-west of Edmonton, and around the west end of Lesser Slave Lake, and north to Lake Athabasca. (*Macoun.*) Marsh at "Chinaman's Ranche" near Câche Creek, B.C. (*Fletcher.*) Saskatchewan River. (*Hooker, Fl.*)

711. TRIPLASIS, Beauv.

(2828.) **T. purpurea,** Chap.; Vasey, Cat. Grasses U.S. 67, (1885.)
Uralepis purpurea, Nutt.
On the sandy shore of Lake Erie, at Point aux Pins, and Point Pelée. (*Burgess.*)

712. MUNROA, Torr. Bot. Whipple Exp. 102.

(2829.) **M. squarrosa,** Torr.; Vasey, Cat. Grasses U.S. 69, (1885.)
On alluvium in the valley of Red Deer River, five miles east of the Hand Hills, Alberta, 1879. (*Macoun.*)

713. CYNOSURUS, Linn. Gen. 87. (DOG'S-TAIL GRASS.)

(2830.) **C.** CRISTATUS, Linn.; Hook. Student's Flora, 488.
On lawns and in meadows; seldom cultivated. Quebec, near the Parliament buildings. (*St. Cyr.*) Vicinity of Montreal. (*G. Barnston.*) Lawns at Ottawa. (*Fletcher, Fl. Ott.*) Occasionally met with at London, Ont. (*Burgess.*) Near Victoria, Vancouver Island. (*Fletcher.*) Cloverdale, near Victoria. (*John Tolmie.*)

714. KŒLERIA, Pers. Syn. Pl. I., 97.

(2831.) **K. cristata,** Pers.; Hook., Fl. II., 249.
Very abundant in the whole prairie region, and from the confines of the forest to Vancouver Island, and northward to Athabasca Lake. Sandy ground, London, Ont.; and Emerson, Man. (*Burgess. Millman.*) Moose Mountain Creek, Assiniboia. (*J. M. Macoun.*) Brandon, Man. (*Prof. Fowler.*) Cypress Hills, Red Deer Lakes, and throughout the whole Saskatchewan country to Peace River; also from Brandon westward by Calgary through the Rocky Mountains to Castle Mountain. (*Macoun.*) Emerson to the Rocky Mountains, on the 49th parallel; North Fork of Old Man River, Rocky Mountains; also Eliguck Lake, B.C. (*Dawson.*) Abundant in northern British Columbia to lat. 54°;

common in many localities, Vancouver Island. (*Macoun.*) Mount Finlayson, Vancouver Island. (*Fletcher.*) Lake Winnipeg, and Red River to the Rocky Mountains. (*Hooker, Fl.*) Red River, Man., 1827. (*Douglas.*)

Var. **gracilis,** Gray, Man. Ed. V., 625.

Oak Bay, and Nanaimo, Vancouver Island; rather common. (*Macoun.*)

Var. **major,** Vasey. (MS.) N. Var.

A very fine variety, strikingly like large specimens of *Eatonia obtusata.* Cedar Hill, and Goldstream, Vancouver Island. (*Macoun.*)

715. EATONIA, Rafin. Journ. Phys. LXXXIX.

(2832.) **E. obtusata,** Gray, Man. Ed. V., 626.

Kœleria truncata, Torr., Fl. I., 216.
Aira truncata, Muhl. Gram. 83.
A. obtusata, Michx., Fl. I., 62.
Reboulea gracilis, Kunth; Hook., Fl. II., 249, in part.

Rather rare in Ontario. In tufts in moist open woods, near Belleville; also near Grafton, Northumberland Co.; and at Red Bay, Lake Huron, Ont.; along the South Saskatchewan, at the Elbow, Assiniboia. (*Macoun.*) Red River, Man., 1827. (*Douglas.*)

(2833.) **E. Pennsylvanica,** Gray, Man. Ed. V., 626.

Kœleria (?) *Pennsylvanica,* DC. (1813.)
Aira mollis, Muhl. Gram. 81.
Reboulea gracilis, Kunth; Hook., Fl. II., 249, in part.

Along river margins, chiefly in alluvial soil, from the Atlantic to British Columbia. Restigouche, and Kennebeccasis; rather scarce, N.B. (*Fowler, Cat.*) Charlotte Co., N.B. (*Vroom.*) Titusville, King's Co., N.B. (*Brittain.*) Jupiter River, Anticosti; Ste. Anne des Monts River, Gaspé, Q. (*Macoun.*) Waste places near Prescott, Ont. (*Billings.*) Along the Moira, at Belleville, and in many places throughout central Ontario, extending westward to Owen Sound, and thence northerly to the mouth of Nipigon River, Lake Superior. (*Macoun.*) Low woods near London, Ont. (*Millman.*) North shore of Lake Superior. (*Agassiz.*) Between Fort Severn and York Factory, Hudson Bay; Washow Bay, Lake Winnipeg. (*J. M. Macoun.*) Along the Columbia River, at Donald; apparently rare. (*Macoun.*) Near the Falls of Niagara; Saskatchewan to the Rocky Mountains. (*Hooker, Fl.*) Emerson, Man. (*Prof. Fowler.*)

716. CATABROSA, Beauv. Agrost. 70.

(2834.) **C. aquatica,** Beauv.; Hook., Fl. II., 249.

Rather rare in springs and small brooks eastward. Pentecost River, Q. (*St. Cyr.*) Boggy place, near Salt Lake, Anticosti; Mont Louis, Gaspé coast, Q. (*Macoun.*) Lake Mistassini, N.E.T.; Fort George, James Bay; Severn River, Keewatin; also west coast of Hudson Bay, and Qu'Appelle River, at Fort Qu'Appelle, Assiniboia. (*J. M. Macoun.*) Swift Current Creek, Assiniboia; Crawling Valley, south of the Hand Hills, Alberta; abundant around a large spring west of Morley Station, Rocky Mountains. (*Macoun.*) Wood Mountain, and Milk River, lat. 49°. (*Burgess. Dawson.*) York Factory, Hudson Bay, to the Rocky Mountains. (*Hooker, Fl.*) Sitka, and Kotzebue Sound. (*Rothr. Alask.*) Greenland. (*Lange.*)

717. ERAGROSTIS, Beauv. Agrost. 70.

(2835.) **E.** MAJOR Host. Gram. 4, t. 24.

E. poæoides, var. *megastachya,* Gray, Man. Ed. V., 631.
Briza Eragrostis, Linn.; Michx., Fl. I., 72; Pursh, Fl. I., 72.
Megastachya Eragrostis, Beauv. Agrost. 74.

Introduced along some of the railways in Ontario. Point Edward, River St. Clair, Ont. (*J. M. Macoun.*) Along the railway at Windsor, Ont. (*Macoun.*)

(2836.) **E.** MINOR, Host.; Vasey, Cat. Grasses U.S. 72, (1885.)

E. poæoides, Beauv.; Gray, Man. Ed. V., 631.
Poa Eragrostis, Linn.; Pursh, Fl. I., 80.

Waste places and in cultivated grounds. London, and Point Pelée, Lake Erie. (*Burgess.*) Vicinity of Hamilton, Ont. (*Logie.*) In fields at Royston, Park, Owen Sound. (*Macoun.*)

(2837.) **E.** PURSHII, Schrad.; Gray, Man. Ed. V., 632.

Apparently introduced along railways. In fields at Port Colborne, and Windsor, Lake Erie. (*Macoun.*)

(2838.) **E. reptans,** Nees; Gray, Man. Ed. V., 631.

Poa reptans, Michx., Fl. I., 69; Pursh, Fl. I., 81; Hook., Fl. II., 245.

Along the Salmon River, four miles above the railway bridge, near

Shannonville, Hastings Co.; common on alluvial soil, near Belleville, and in many places in Hastings Co., Ont. (*Macoun.*) River flat, Don Valley, Toronto, Ont. (*Burgess.*) Along the Red River, at Winnipeg; common. (*Fletcher.*)

718. MELICA, Linn. Gen. 82.

(2839.) **M. acuminata,** Bolander, Proced. Calif. Acad. IV., 104.

Festuca subulata, Bong. Veg. Sitch. 173; Hook, Fl. II., 251.

Bromus subulatus, Griseb; Gray, Proced. Am. Acad. VIII., 410.

Not uncommon in shady woods at Oak Bay, Gordon Head, and Nanaimo, Goldstream, Qualicum, and Alberni, Vancouver Island. (*Macoun.*) Sitka. (*Rothr. Alask.*) Vicinity of Victoria, Vancouver Island. (*Fletcher.*)

(2840.) **M. aristata,** Thurber; Bolander Proced. Calif. Acad. IV., 103.

Abundant in the valleys of the Selkirk Mountains, especially in Beaver and Bear Creek valleys. (*Macoun.*)

(2841.) **M. bulbosa,** Geyer; Hook. Journ. Bot. VIII., 19.

M. poaoides, Torr. Pacif. R. Rep. IV. 157.

Rather common in the Rocky Mountains, and British Columbia. Western summit of South Kootanie Pass, Rocky Mountains. (*Dawson.*) Not rare in northern British Columbia to Fort McLeod, lat. 55°. (*Macoun.*)

(2842.) **M. Harfordii,** Bolander, Proced. Calif. Acad. IV., 102.

Rather rare in rocky ground at Oak Bay, and in oak woods near Cloverdale, Vancouver Island. (*Macoun.*)

719. PLEUROPOGON, R. Br.

(2843.) **P. Sabinii,** R. Br.: Hook., Fl. II., 249.

Melville Island. (*Hooker, Fl.*) Port Kennedy, west coast of Baffin's Bay, lat. 72°. (*Dr. Walker.*) Greenland. (*Lange.*)

720. DISTICHLIS, Rafin. (SPIKE-GRASS.)

(2844.) **D. maritima,** Raf. Journ. Phys. LXXXIX., 104.

Brizopyrum spicatum, Hook. & Arn.; Hook., Fl. II., 254, in part; Gray, Man. Ed. V., 628.

B. boreale, Presl, Rel. Hænk. I., 280.

B. Americanum, Link. Hort. Berol. I., 160.

Poa Michauxii, Kunth, Enum. I., 325.

Festuca distichophylla, Michx., Fl. I., 67; Pursh, Fl. I., 84.

Abundant in salt marshes at Victoria, Cadboro Bay, and Nanaimo on the east, and Barclay Sound on the west side of Vancouver Island. (*Macoun.*) Straits of De Fuca, and Nootka. (*Hooker, Fl.*)

Var. **stricta,** Thurber, Bot. Calif. II., 306.

Brizopyrum spicatum, var. *strictum*, Gray.

B. spicatum, Hook. & Arn.; Hook., Fl. II., 254, in part; Macoun, Cat. No. 2175.

Poa borrale, Hook., Fl. II., 245.

We place all our interior specimens under the variety, as they have the loose panicle, few erect spikelets and pale green color that characterize it. Very abundant by salt marshes throughout the whole prairie region, from Winnipeg westward to the mountains, and the dry interior of British Columbia. Hand Hills, and Red Deer Lakes, Alberta. (*Macoun.*) Maple Creek, Alberta. (*J. M. Macoun.*) Thompson River, B. C. (*J. A. Hill.*) "Chinaman's Ranche," above Spence's Bridge, B. C. (*Fletcher.*) Plains of the Red River to the Rocky Mountains. (*Hooker, Fl.*) Milk River, lat. 49°. (*Millman.*) Saline soil, Wood Mountain, Assiniboia. (*Burgess.*) Red River, Man., 1827. (*Douglas.*)

721. DACTYLIS, Linn. Gen. 86. (ORCHARD GRASS.)

(2845.) **D.** GLOMERATA, Linn.; Nees. Gen. t. 65.

Cultivated in orchards and lawns, and escaped to roadsides in many parts of the older provinces. It seems better suited for Vancouver Island than timothy, as it produces better pasture.

722. BRIZA, Linn. Gen. 84. (QUAKING GRASS.)

(2846.) **B.** MEDIA, Linn.; Gray, Man. Ed. V., 633.

Introduced and naturalized in a few places. Meadow near London, Ont.; very rare. (*Millman.*) On dry rocks at the Halfway House, near Nanaimo, Vancouver Island. (*Macoun.*)

723. POA, Linn. Gen. 83. (MEADOW GRASS.)

(2847.) **P. abbreviata,** R. Br.; Hook., Fl. II., 247.

Melville Islands, and Igloolik; Kotzebue Sound. (*Hooker, Fl.*) Port Bowen, Labrador, 1825. (*Lieut. Ross.*) Digge's Island, Hudson Strait. (*R. Bell.*) On rocks near the sea, Cadboro Bay, and on sand at Qualicum, Vancouver Island. (*Macoun.*) Greenland. (*Lange.*) Some of these references are doubtful.

(2848.) **P. alpina,** Linn.; Hook., Fl. II., 246.

Abundant on mountains and on the northern coast. Nain, coast of Labrador; and Cape Chudleigh, Hudson Strait. (*R. Bell.*) Newfoundland. (*Sir Joseph Banks.*) Jupiter River, and Gunn River, Anticosti; Rivière Ste. Anne des Monts, Gaspé, Q. (*Macoun.*) Mount Albert, Gaspé, Q. (*Porter.*) Harbor Island, Mingan, Q. (*St. Cyr.*) North shore of Lake Superior. (*Agassiz.*) At Otter Head, and Pie Island, Lake Superior; Point Wilkins, Lake Winnipegoosis, Man. (*Macoun.*) "The Twins," James Bay; west coast of Hudson Bay. (*J. M. Macoun.*) York Factory to Fort Churchill. (*R. Bell.*) Between Repulse Bay and Cape Lady Pelly. (*Dr. Rae.*) Rather abundant on the Rocky Mountains, from the Kananaskis westward to Roger's Pass, in the Selkirk Mountains; Stewart's Lake Mountain, and Fort McLeod, B.C.; summit of Mounts Benson and Arrowsmith, Vancouver Island. (*Macoun.*) Eastern and western summits of North Kootanie Pass, Rocky Mountains; Lake Lindeman, lat. 59° 40′, B.C., and Pelly Banks, lat. 62°, N.W.T. (*Dawson.*) From the elevated grounds of the Saskatchewan to the Rocky Mountains, and Bear Lake. (*Hooker, Fl.*) Pond's Bay, Baffin's Bay. (*Dr. Walker.*) Greenland. (*Lange.*)

(2849.) **D. alsodes,** Gray, Man. Ed. V., 630.

P. nemoralis, Torr., Fl. I., 111.

Dartmouth, near Halifax, N.S. (*Sommers, Cat.*) Between Florence-

ville, and Andover, N.B. (*Brittain.*) St. Stephen, N.B. (*Vroom.*) Damp woods, near London, Ont. (*Burgess. Millman.*)

(2850.) **P. andina,** Nutt.; Vasey, Cat. Grasses U. S., 79, (1885.)

This species seems to be badly characterized or poorly understood. Ungava, Labrador. (*Barnston.*) Sand beaches, Poplar River, Lake Nipigon, Ont. (*Macoun.*)

Var. **purpurea,** Vasey. (MS.)

Red Deer Lakes, Hand Hills, and Red Deer River, Alberta. (*Macoun.*)

(2851.) **P.** ANNUA, Linn.; Hook., Fl. II., 245.

This species has become naturalized wherever settlements have been made, and it seems to thrive as well on the shores of Hudson Bay as under the genial skies of Vancouver Island. Greenland. (*Lange,*)

(2852.) **P. Bolanderi,** Vasey, Coult. Bot. Gaz. VII., 32.

On sand at Sooke, Vancouver Island. (*Fletcher.*)

(2853.) **P. cæsia,** Smith; Gray, Man. Ed. V., 629.

P. nemoralis, Hook., Fl. II., 246.

P. glauca, Vahl., Fl. Dan. t. 964, (1790.)

An abundant and useful grass forming much of the pasture in the eastern and northern parts of the prairie region. At Windsor, N.S. (*Macoun.*) Taborville, King's Co., N.B. (*Fowler, Cat.*) Summit of Mount Albert, Gaspé, Q. (*Porter.*) Very common at Belleville, along the River Moira, Ont.; north-east coast of Lake Superior, and around Thunder Bay, and up the Kaministiqua to Kakabeka Falls. (*Macoun.*) Gravelly shores, London, and Parry Sound, Georgian Bay. (*Burgess.*) Vicinity of Hamilton, Ont. (*Logie.*) Severn River, and west coast of Hudson Bay. (*J. M. Macoun.*) Point Wilkins, Lake Winnipegoosis, Man.; west of Touchwood Hills; Brandon, and Old Wives Lakes; south of Battleford. (*Macoun.*) Moose Mountain Creek, Assiniboia. (*J. M. Macoun.*) North Fork of Old Man River, Rocky Mountains; Lake Lindeman, lat. 59° 40′; Dease River, lat. 59°; Frances River, lat. 61°; Pelly Banks, lat. 62°, B.C., and N.W.T. (*Dawson.*) Spence's Bridge, B.C. (*Macoun.*)

Var. **strictior,** Gray, Man. Ed. V., 629.

Damp rocks near Sault Ste. Marie; Flat Rock Portage, Nipigon House, Lake Nipigon; on dry slopes of the foot-hills of the Rocky Mountains, at Morley. (*Macoun.*) Wet gravelly shore of Lake Superior, at Port Arthur. (*Burgess.*)

(2854.) **P. cenisia,** All.; Vasey, Cat. Grasses U

P. arctica, R. Br.; Hook., Fl. II., 246, in part; Ma
P flexuosa, Wahl. Fl. Suec. (1824.)

Labrador; Rocky Mountains to the Arctic sea-sl every direction. (*Hooker, Fl.*) Ford's Harbor, Lal leigh, Nottingham Island, Digge's Island, and Man son Strait. (*R. Bell.*) Fort George, Little Charlte Twins," James Bay; west coast of Hudson Bay. Between Fort Churchill and Cape Lady Pelly, nor (*Dr. Rae.*) Point Barrow, Alaska. (*John Murdocl* Kotzebue Sound, Ounalashka, and Sitka. (*Rothr. A* of snow-slides on all the higher Rocky and S (*Macoun.*) Hills north of Finlayson Lake, N.W.T. land. (*Lange.*)

(2855.) **P.** COMPRESSA, Linn. (English Blue Gras

This is considered an excellent pasture grass, but *Poa pratensis.* Truro, Annapolis and Kingston Harvey, York Co.; Fredericton Junction, and St. J (*Fowler, Cat.*) Magdalen Islands, N.S. (*J. Richa* River, Q. (*St. Cyr.*) Field, Ste. Anne des Mont (*Macoun.*) Vicinity of Tadousac, Q. (*A. T. Drur* hood of Ottawa. (*Fletcher, Fl. Ott.*) Common (*Billings.*) Very common throughout central Ont and westward to Owen Sound. (*Macoun.*) Vicinit (*Logie.*) Sterile sandy soil, London, Ont.; also Par Bay. (*Burgess.*) In pastures at Cedar Hill, and Clc Island. (*Macoun.*)

(2856.) **P. Californica,** Vasey, Cat. Grasses U.

P. andina, Nutt. in herb. Gray; Macoun, Cat. No.
Eragrostis Fendleri, Steud. Syn. Gram. 278.
Atropis Californica, Munro. (MS.)

Abundant on the mountain slopes along the Fras and up the Thompson to Spence's Bridge, B.C. (*M*

(2857.) **P. cuspidata,** Vasey & Scribner.

Rather common on the higher slopes of the I mountains, and frequent in all the valleys. (*Macoi*

(2858.) **P. debilis,** Torr. Bot. N. York, II., 459.

Not uncommon in woods eastward. Rocky wooc Canso, N.S. (*Macoun & Burgess.*) Petitcodiac, N

Island of Orleans. (*St. Cyr.*) Along Ste. Anne des Monts River, Gaspé, Q. (*Macoun.*) Mount Albert, Gaspé, Q. (*Porter.*) Miriwin's Woods, Prescott, Ont.; rare. (*Billings.*) Dry rocky ground in woods at Shannonville, and Belleville, Hastings Co., Ont.; dry spots, Current River, Lake Superior, and Lake Nipigon; Niagara Falls, and Port Stanley, Ont. (*Macoun.*) London, Ont. (*Millman*) Vicinity of Hamilton, Ont. (*Logie.*) Kemptville, Ont. (*Porter.*)

Var. **acutiflora,** Vasey. (MS.)

Common in woods and thickets at Truro, N.S. (*Macoun & Burgess.*)

(2859.) **P. Eatoni,** Watson.

East end of Cypress Hills, Alberta, 1880. (*Macoun.*)

(2860.) **P. flavicans,** Ledeb.; Rothr. Alask. Pl., 467.

Ounalashka. (*Rothr. Alask.*)

(2861.) **P. glumaris,** Trin.; Hook., Fl. II., 247.

Glyceria glumaris, Ledeb.; Rothr. Alask. Pl. 458.

Islands of St. Lawrence, and Sitka, peninsula of Alaska, and Kotzebue Sound. (*Hooker, Fl. Rothr. Alask.*) Mingan Islands, Q. (*St. Cyr.*) Magdalen Islands, N.S. (*McKay.*) English Bay, Anticosti; Grand Etang, Gaspé coast, Q. (*Macoun.*) Temiscouata, Q. (*Pringle.*)

(2862.) **P. Howellii,** Vasey & Scribner.

On the slopes of dry gravelly hillsides at Goldstream, Nanaimo, and Somenos, Vancouver Island. (*Macoun.*)

(2863.) **P. laxa,** Hænk.; Hook., Fl. II., 246.

On the open prairie, Emerson, Man. (*Burgess. Millman.*) Near Edmonton, on the Saskatchewan; on a mountain summit near Kicking Horse Lake, Rocky Mountains. (*Macoun.*) Hudson Bay to the Arctic islands. (*Hooker, Fl.*) Pond's Bay and Port Kennedy, west coast of Baffin's Bay, lat. 72°. (*Dr. Walker.*) Nelson River, Keewatin. (*R. Bell.*)

(2864.) **P. leptocoma,** Trin.; Hook., Fl. II., 247.

Sitka. (*Hooker, Fl.*)

(2865.) **P. Macounii,** Vasey. (ined.)

Abundant on the upper slopes of the Rocky Mountains, at Kicking Horse Lake, (1885.) (*Macoun.*)

(2866.) **P. nemoralis,** Linn.; Hook., Fl. II., 246; Pursh, Fl. I., 79. (?)

Amongst gravel in the valley of Jupiter River, Anticosti; Moose

Mountain, Assiniboia; on the lower slopes in openings of the pine woods in the Rocky Mountains, at Castle Mountain; on sand in the valley of Beaver Creek, Selkirk Mountains, B.C. (*Macoun.*) Kotzebue Sound. (*Rothr. Alask.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) Greenland. (*Lange.*)

(2867.) **P. Nutkaensis,** Presl.

Alaska. (*Vasey.*)

(2868.) **P. Nevadensis,** Vasey.

On cliffs along the sea at Esquimalt, and Gordon Head, near Victoria, Vancouver Island. (*Macoun.*)

(2869.) **P. pratensis,** Linn.; Hook., Fl. II., 246.

This species is one of the most widely spread and most valuable grasses we have in the country. It is found in almost every situation but prefers sandy or gravelly fields, where in a few years it takes complete possession. Its value for hay is not nearly so great as for pasture. Although often despised by the farmer it is the best friend he has, as his animals feed upon it for nearly the whole summer. The form generally found in the fields has been introduced, but it is indigenous both in the north and west, and is destined to be the great pasture grass of our North-west Territories. Greenland. (*Lange.*)

(2870.) **P. purpurascens,** Vasey, Bull. Torr. Bot. Club. VI., 297.

On the upper slopes of the Rocky and Selkirk mountains; very abundant; summit of Mount Arrowsmith, Vancouver Island, alt. 5,700 feet. (*Macoun.*)

(2871.) **P. serotina,** Ehrh.; Gray, Man. Ed. V., 629.

P. palustris, Muhl. Gram. 150.

P. crocata, Michx., Fl. I., 68; Hook., Fl. II., 246.

Abundant in wet swampy places from the Atlantic to the Pacific. Truro, and Yarmouth, N.S. (*Macoun.*) Baddeck, Cape Breton. (*Burgess.*) Magdalen Islands, N.S. (*McKay.*) Along brooks in damp fields, Bass River; Hampton, N.B. (*Fowler, Cat.*) Beauport, Q. (*St. Cyr.*) Open places, Huckleberry Rapids, Argenteuil Co., Q. (*D'Urban.*) Tadousac, Q. (*A. T. Drummond.*) Along the Gaspé coast, at Matane; Salt Lake, Anticosti. (*Macoun.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Common in wet places at Prescott, Ont. (*Billings.*) Very common throughout central Ontario, and extending northerly around Lakes Huron and Superior to Rainy Lake. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*) Swampy ground near London. (*Millman.*

Burgess.) Vicinity of Hamilton, Ont. (*Logie.*) Gravelly shore of Lake Superior, at Port Arthur, Ont. (*Burgess.*) Nelson River, Keewatin. (*R. Bell.*) Moose Mountain, Assiniboia. (*J. M. Macoun.*) Sand Creek, Kootanie Valley, Rocky Mountains. (*Dawson.*) Côteau de Missouri; abundant on the Saskatchewan, and northward to Lake Athabasca; very common in wet places and ditches, Vancouver Island. (*Macoun.*) Lake Winnipeg to the Rocky Mountains. (*Hooker, Fl.*) Red River, Man., 1827. (*Douglas.*)

We have vars. *Hallii* and *erecta* from the prairie region, but they may be only transient forms of the species, and not good varieties.

(2872.) **P. stenantha,** Trin.; Hook., Fl. II., 247.

Festuca nervosa, Hook., Fl. II., 251. (?)

Sitka, and Ounalashka. (*Rothr. Alask.*) Nootka Sound, west coast of Vancouver Island. (*Hooker, Fl.*) On the beds of snow slides on the higher Selkirk Mountains in Roger's Pass, B.C. (*Macoun.*)

(2873.) **P. sub-aristata,** Scribner.

On the summits of the higher Rocky Mountains, from Canmore westward to the Columbia. (*Macoun.*)

(2874.) **P. tenuiflora,** Nutt.; Gray, Proced. Am. Acad. VIII., 409

Atropis tenuiflora, Thurber, Bot. Calif. II., 310.

An exceedingly valuable grass, especially in the foot-hills of the Rocky Mountains and throughout British Columbia. One of the "Bunch Grasses." In its numerous unrecognized varieties it extends from Brandon westward through the whole prairie region, especially to the south, and appears again west of the Rocky Mountains, where it is the chief pasture grass, and forms part of the natural hay in northern British Columbia. On Vancouver Island it is abundant, from the sea-coast to the snow-line, and hence is essentially the native pasturage grass of the Pacific coast.

Var. **Oregona,** Vasey, Cat. Grasses U.S. 85, (1885.)

This variety has only been detected along the coast of Vancouver Island, from Victoria, to Nanaimo.

(2875.) **P.** TRIVIALIS, Linn. (Rough-Stalked Meadow Grass.)

Introduced in ballast at Richibucto, N.B. (*Fowler, Cat.*) A number of forms of this fine grass were abundant in the wet pastures at, and around, Victoria, Vancouver Island; doubtless introduced. (*Macoun.*)

We have still a number of undetermined forms of *Poa,* some of

which may be good species, but we have not material enough o hand to come to any decision. This genus is well represented i Canada, and the fact that such species as *P. cæsia, pratensis, serotina* and *tenuiflora*, are found throughout the north, shows clearly tha Canada wherever denuded of forest is the land of butter, cheese an beef, for future generations.

724. GRAPHEPHORUM, Desv. (1810.)

(2876.) **C. melicoides,** Beauv.; Gray, Man. Ed. V., 625.

Dupontia Cooleyi, Gray, Man. Ed. II., (1856.)

Petitcodiac, and Titusville, N.B. (*Fowler, Cat.*) Simonds, Carleto Co., N.B. (*Brittain.*) Mount Albert, Gaspe, Q. (*Porter.*) Abunda along the coast of Anticosti, at Rivière de Brig; five miles up t Madeline River, Gaspé coast, Q; on the bank of the Trent, half-w between Meyersburg and Campbellford, Northumberland Co., Ont shore of Red Bay, Lake Huron; very abundant at the Pic River, La Superior. (*Macoun.*)

(2877.) **C. Wolfii,** Vasey, Cat. Grasses U. S. 55, (1885.)

"Head of the Mountain," west end of Cypress Hills, Alber (*Macoun.*)

725. DUPONTIA, R. Br.

(2878.) **D. Fischeri,** R. Br.; Hook., Fl. II., 242.

Arctic sea-coast and islands. (*Hooker, Fl.*) Cape Prince of Wal and Nottingham Island, Hudson Strait. (*R. Bell.*) Port Kenne west coast of Baffin's Bay. (*Dr. Walker.*) Point Barrow. (*J Murdoch.*) Between Repulse Bay and Cape Lady Pelly. (*Dr. Rae.*)

(2879.) **D. psilosantha,** Rupt.; Symb. Pl. Ross. 64.

Kotzebue Sound. (*Rothr. Alask.*) Arctic coast to Hudson B (*Vasey.*) Greenland. (*Lange.*)

726. ARCTOPHILA, Rupt.

(2880.) **A. fulva,** Rupt.; Vasey, Cat. Grasses U.S. 88, (1885.)

Colpodium fulvum, Ledeb. Rothrock Pl. Alask., 458.
Poa fulva, Trin.; Hook., Fl. II., 247.

Kotzebue Sound. (*Rothr. Alask.*) Arctic coast. (*Vasey.*) Point Barrow. (*John Murdoch.*)

(2881.) **A. Læstadii,** Rupt.; Vasey, Cat. Grasses U.S. 88, (1885.)

A. pendulina, And.

Nottingham and Mansfield islands, Hudson Straits; coast of Hudson Bay. (*R. Bell.*) West coast of Hudson Bay, lat. 56°. (*J. M. Macoun.*)

(2882.) **A. mucronata,** Hack.; Vasey, Cat. Grasses U.S. 88, (1885.)

Arctic coast. (*Vasey.*)

727. FLUMINIA, Fries.

(2883.) **F. arundinacea,** Fries.; Vasey, Cat. Grasses U.S. 88, (1885.)

Festuca borealis, Hook., Fl. II., 251.
Graphephorum festucaceum, Gray.

This fine grass is found in great abundance in nearly all fresh water ponds throughout the prairie region, and northward to Peace River. (*Macoun.*) Ponds, Souris Plain, Man. (*J. M. Macoun.*) Lake of the Woods. (*Burgess.*)

728. GLYCERIA, R. Br.

(2884.) **G. angustata,** Fries. Mant. III., 176.

Poa angustata, R. Br.; Hook., Fl. II., 247.
Atropis angustata, Ledeb. Fl. Ross. IV., 390.

Kotzebue Sound. (*Rothr. Alask.*) Arctic sea-coast and adjacent islands. (*Hooker, Fl.*) Digge's Island, Hudson Strait. (*R. Bell.*) Salt marshes along the Gaspé coast, at Mont Louis; and in marshes at Annapolis, N. S. (*Macoun.*) Idaho Inlet, Cross Sound, Alaska. (*Meehan.*) Greenland. (*Lange.*)

(2884.) **C. arctica,** Hook., Fl. II., 248.

G. arctica, β. laxa, Dur. Pl. Kan., No. 97.

Arctic sea-coast. (*Hooker, Fl.*) This species is figured in Hooker's Flora Boreali Americana, and resembles a form of *G. maritima,* but we are unaware of its identification with any of our species.

(2886.) **C. arundinacea,** Kunth; Vasey, Cat. Grasses, U.S. 86, (1885.)

G. aquatica, Smith; Hook., Fl. II., 248; Macoun, Cat. No. 2167.
Poa aquatica, var. *β. Americana,* Torr., Fl. I., 108.

Abundant in pools, ditches, and borders of lakes and rivers, from the Atlantic to the Pacific. In water and very wet places, Bass River, N.B. (*Fowler, Cat.*) Campbellton, N.B. (*Chalmers.*) Magdalen Islands, (*J. Richardson.*) Whycocogmah, Cape Breton. (*Macoun.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Very common near Prescott, Ont. (*Billings.*) Abundant at Belleville, and westward throughout Ontario to Lake Nipigon, and south to the Kaministiqua River. (*Macoun.*) Sault Ste. Marie. (*R. Bell.*) North shore of Lake Superior. (*Agassiz.*) Vicinity of Hamilton, Ont. (*Logie.*) London, Ont.; Parry Sound, Georgian Bay; Emerson, Man. (*Burgess.*) Woodstock, Ont. (*Millman.*) High Bluff, Man. (*McGill Coll. Herb.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) All around James Bay, and north to York Factory; also at Maple Creek, Alberta. (*J. M. Macoun.*) Abundant in pools throughout the prairie region, and north to Lake Athabasca; rather common in the Columbia Valley, from Golden City to Donald; in wet marshy places at Victoria, Nanaimo, and Alberni, Vancouver Island. (*Macoun.*) Upper Nachacco River, B.C. (*Dawson.*) Sitka. (*Rothr. Alask.*) Lake Winnipeg to the Saskatchewan; Rocky Mountains. (*Hooker, Fl.*)

(2887.) **C. Canadensis,** Trin.; Hook., Fl. II., 249.

Poa Canadensis, Beauv.; Torr., Fl. I., 112.
Briza Canadensis, Michx., Fl. I., 71; Pursh, Fl. I., 82.
Poa aquatica, Pursh, Fl. I., 80.

Quite common in the maritime provinces; rare westward. Yarmouth, Windsor and Canso, N. S.; North Sydney, Cape Breton. (*Macoun & Burgess.*) Prince's Lodge, near Halifax, N.S. (*Sommers, Cat.*) Pictou, N.S. (*McKay.*) Common in bogs and very wet places, N.B. (*Fowler, Cat.*) Tobique River, N.B. (*Hay.*) Thunder River, Q. (*St. Cyr.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Wet grounds near Prescott Junction, Ont.; and Chelsea, Q. (*Billings.*) Beaver meadow, Partridge Lake, Addington Co.; also at the entrance to the Murray Canal, near Trenton; abundant up Gull River, Victoria Co.;

and in a marshy meadow, Point aux Pins, Lake Superior; Flat Rock Portage, Lake Nipigon. (*Macoun.*) Lake Mistassini, N.E.T. (*J. M. Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Parry Sound, Georgian Bay. (*Burgess.*)

(2888.) **G.** DISTANS, Wahl.; Gray, Man. Ed. V., 628.

Atropis distans, Griseb.; Ledeb. Fl. Ross. IV., 388.

A careful examination of all our specimens from both the east or Atlantic coast and the west coast, has satisfied us that this species is not indigenous to Canada. All forms not introduced are placed under the var. *airoides* or *G. maritima*. On ballast heaps, Pictou, N. S.; North Sydney, Cape Breton. (*Macoun & Burgess.*) Carleton, St. John, N.B., 1877. (*Fowler.*)

Var. **airoides,** Vasey, Cat Grasses U. S. 87, (1885.)

Glyceria airoides, Thurber, Bot. Wilkes Exp. 490.
Poa airoides, Nutt.; Hook., Fl. II., 245.
P. fasciculata, Hook., Fl. II., 245.

Very abundant in saline marshes throughout the interior west of Winnipeg, at Moose Mountain, Côteau de Missouri, Red Deer Lakes, and Edmonton; Castle Mountain, in Rocky Mountains. Seed evidently brought from the prairie. (*Macoun.*) Fort Carleton. (*Hooker, Fl.*)

(2889.) **G. elongata,** Trin.; Hook., Fl. II., 248.

Poa elongata, Torr., Fl. I., 112.

Bass River, and Salmon River, N.B. (*Fowler, Cat.*) Lower Tobique River, N.B. (*Hay.*) St. David, Charlotte Co., N.B. (*Vroom.*) Titusville, King's Co., N.B. (*Brittain.*) Pentecost River, Q. (*St. Cyr.*)

(2890.) **G. fluitans,** R. Br.; Hook., Fl. II., 248.

Festuca fluitans, Linn.; Michx., Fl. I., 66; Pursh, Fl. I., 84.

Very common in ditches and muddy places from the Atlantic to the Pacific. In shallow water, Bass River; and at St. John, N.B. (*Fowler, Cat.*) Common around Ottawa. (*Fletcher, Fl. Ott.*) Abundant at Prescott Junction, Ont. (*Billings.*) Very common in ditches and ponds througout central and western Ontario, and extending to Lake Nipigon and the west side of Thunder Bay, and Kaministiqua River. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*) Vicinity of Hamilton. (*Logie.*) London, Toronto, Niagara Falls, Hatchley, and Point aux Pins, Lake Erie. (*Burgess.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Michipicotin River, Ont.; and Nelson River, Keewatin. (*R. Bell.*) Throughout the northern part of the prairie region, and south to the dry, treeless district; rather common in the

Columbia valley and eastern valleys of the Rocky Mountains; in wet places at Goldstream, Somenos, Nanaimo, and Alberni, Vancouver Island. (*Macoun.*) Vicinity of Victoria, Vancouver Island. (*Fletcher.*) Saskatchewan. (*Hooker, Fl.*)

(2891.) **G. festucæformis,** Reichenb. Icon. Fl. Germ. t., 151.
Poa festucæformis, Host.; Hook., Fl. II., 245.

Along the coast of Vancouver Island, at Oak Bay, near Victoria, 1887. (*Macoun.*) Sitka. (*Hooker, Fl.*)

(2892.) **G. Lemmoni,** Vasey.

Along the coast of Vancouver Island, at Esquimault, Oak Bay, and Nanaimo. (*Macoun.*)

(2893.) **G. maritima,** Wahl.; Gray, Man. Ed. V., 628.
Atropis distans, Thurber, Bot. Calif. II., 308, in part.

All the native forms distinct from *G. angustata,* are placed here whether collected on the east, north or west coasts. The various forms of this species require careful examination. North Sydney, Cape Breton, and Truro, N.S. (*Macoun.*) Frequent on the sea-coast of Kent Co.; Salt marshes, Bathurst, and St. John, N.B. (*Fowler, Cat.*) Coast of Anticosti, at Salt Lake, Ellis Bay, and Strawberry Cove; salt marsh at Cape Rosier, and along the Gaspè coast to Matane. (*Macoun.*) Ste. Geneviève, Mingan, Q. (*St. Cyr.*) Salt marshes, Lower St. Lawrence. (*Pringle.*) Fort George, James Bay. (*J. M. Macoun.*) Common in salt marshes along the coast of Vancouver Island, at Victoria, Nanaimo, and Alberni. (*Macoun.*) Texada Island, and Blunden Harbor, Gulf of Georgia, B.C. (*Dawson.*) Sitka. (*Rothr. Alask.*) Fort Wrangel, Alaska. (*Meehan.*)

(2894.) **G. nervata,** Trin.; Hook., Fl. II., 248.
G. Michauxii, Kunth, Enum. I., 367.
Poa nervata, Willd.; Pursh, Fl. I., 78.
P. striata, Michx., Fl. I., 69.
P. parviflora, Pursh, Fl. I., 80.
Briza Canadensis, Nutt., Gen. I., 69.

A very common and variable species growing chiefly in wet meadows and marshy places in woods, from the Atlantic to the Pacific. Bedford, Yarmouth, and many other places in Nova Scotia. (*Macoun.*) In damp grounds and meadows, Bass River, and St. John, N. B. (*Fowler, Cat.*) Tobique River, N.B. (*Hay.*) L'Anse à Griffon, Gaspé coast. (*J. Bell.*) Jupiter River, Anticosti, and at Point Lèvis, Q. (*Macoun.*) Thunder River, and Island of Orleans, Q. (*St. Cyr.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Common around Prescott, Ont. (*Billings.*) Very abundant throughout Ontario, and westward

to the Lake of the Woods. (*Macoun.*) North shore of Lake Superior. (*Agassiz.*) Vicinity of Hamilton, Ont. (*Logie.*) London, Kingston, Parry Sound, and Sault St. Marie, Ont. (*Burgess.*) Oxford House, Keewatin. (*R. Bell.*) Lake Mistassini, N.E.T.; Souris Plain, and Medicine Hat, N.W.T. (*J. M. Macoun.*) Common in wet places on the prairie, and north-westward to Peace River, and Lake Athabasca; abundant in the Rocky and Selkirk mountains; throughout British Columbia to lat. 56°; common on Vancouver Island. (*Macoun.*)

(2895.) **C. obtusa,** Trin.; Hook. Fl. II., 249.

Poa obtusa, Muhl.; Torr., Fl. I., 112.

St. Stephen, N.B. (*Vroom.*) Apparently very rare in Canada.

(2896.) **C. pallida,** Trin.; Gray, Man. Ed. V., 627.

In and around springs; rather local. At North Sydney, Cape Breton, (*Macoun & Burgess.*) In water Petitcodiac, N.B. (*Fowler, Cat.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) At O'Brien's Bridge, and Canniffton, Hastings Co.; one mile south of Gibson's Mountain, Prince Edward Co.; at Cold Creek Bridge, Wooler, Northumberland Co.; and boggy ground, Sydenham Falls, Owen Sound. (*Macoun.*) Wet sandy shore, Port Cockburn, Muskoka, Ont. (*Burgess.*) Vicinity of Hamilton, Ont. (*Logie.*

(2897.) **C. pauciflora,** Presl; Hook, Fl. II., 248.

Not uncommon in marshes around Lesser Slave Lake, and westward to Peace River, at Hudson's Hope; in the vicinity of springs and along brooks in swamps in the valleys of the Selkirks; rather common on Vancouver Island, at Somenos, Nanaimo, and Stamp River, on the west coast. (*Macoun.*) Vicinity of Victoria, Vancouver Island. (*Fletcher.*) Sitka, Alaska. (*Meehan.*) Nootka Sound. (*Hooker, Fl.*) Vancouver city, Burrard Inlet, B.C. (*Prof. Fowler.*)

(2898.) **C. pumila,** Vasey, Bull. Torr. Bot. Club XV., 48.

A very small but distinct (new) species, gathered in salt marshes along Barclay Sound, west coast of Vancouver Island, 1887. (*Macoun.*)

729. FESTUCA, Linn. (FESCUE-GRASS.)

(2899.) **F. duriuscula,** Linn.; Pursh, Fl. I., 83.

F. ovina, Linn., var. *duriuscula,* Gray, Man. Ed. V., 633.

We place under this species all coast forms *without* running root-

stocks, and with *F. rubra* all those which have. Rather common on the Atlantic coast, and apparently indigenous. Newfoundland. (*Sir Joseph Banks.*) At Bedford, Annapolis, and McNab's Island, Halifax Harbor. (*Macoun.*) Magdalen Islands, N.S. (*McKay. J. Richardson.*) Pennant, Halifax Co., N. S. (*Sommers, Cat.*) Coast of Labrador. (*McGill Coll. Herb.*) Richibucto, Shediac, and Moncton, N.B.; scarce. (*Fowler, Cat.*) Ellis Bay, Anticosti. (*St. Cyr.*) Gaspé Basin, Gaspé Co., Q.; Wellington Beach, Lake Ontario; dry fields, near Trenton, and Port Hope, Ont.; very abundant at Queenston Heights; and in many places around Lake Superior. (*Macoun.*) West coast of Hudson Bay. (*J. M. Macoun.*) Not uncommon on gravelly slopes in the Rocky and Selkirk mountains. (*Macoun.*)

(2900.) **F.** ELATIOR, Linn.; Pursh, Fl. I., 83.

Cultivated on lawns and in some meadows. Meadows at Windsor, and in fields at Halifax, N.S. (*Macoun.*) In fields at Fredericton, N.B. (*Fowler, Cat.*) Beauport, Q. (*St. Cyr.*) In meadows at London, Ont. (*Burgess.*) Vicinity of Hamilton, Ont. (*Logie.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*)

(2901.) **F. microstachya,** Nutt.; Watson, Bot. King Exp. V., 388.

Very common on dry gravelly slopes throughout southern Vancouver Island, on all the dry slopes at Nanaimo, Goldstream, and Alberni. (*Macoun.*) Cadboro Bay, near Victoria, Vancouver Island. (*Fletcher.*) Sooke, south-west of Vancouver Island. (*Dawson.*)

Var. **divergens,** Thurb.; Vasey, Cat. Grasses U. S. 90, (1885.)

Very abundant on gravelly slopes on the mountains around Goldstream, and an dry rocks near Wellington Mine, Departure Bay, Vancouver Island. (*Macoun.*)

Var. **pauciflora,** Scribner; Vasey, Cat. Grasses U. S. 90, (1885.)

Found in some abundance at Stewart's Lake, northern British Columbia. (*Macoun*)

(2902.) **F.** MYURUS, Linn.; Michx., Fl. I., 66; Pursh, Fl. I., 83; Hook., Fl. II., 249.

Introduced on all dry soils in the southern part of Vancouver Island, chiefly under oaks. Abundant at Cedar Hill, and Nanaimo. (*Macoun.*) Cadboro Bay, near Victoria, Vancouver Island. (*Fletcher.*)

(2903.) **F. nutans,** Willd.; Pursh, Fl. I., 84.

Halifax, N.S. (*Burgess.*) Lower Norton, Belleisle, and Bairdsville, N.B.

(*Brittain.*) Miriwin's Woods, near Prescott, Ont.; rather rare. (*Billings.*) Common in rich, rocky woods and thickets near Belleville; also Seymour, Northumberland Co.; and at Owen Sound, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie. Millman.*) Rich woods at London, Ont. (*Burgess*)

(2904.) **F. occidentalis,** Hook., Fl. II., 249.

F. pauciflora, Thurb. Bot. Calif. II., 318.

Goldstream, and on the slopes of Mount Finlayson, and Mount Prevost, Vancouver Island. (*Macoun.*)

(2905.) **F. ovina,** Linn.; Hook., Fl. II., 250.

Under various forms this species extends from the Atlantic to the Pacific. Bedford, near Halifax, N.S. Introduced. (*Sommers, Cat.*) In tufts on hillsides, Truro, N.S. (*Macoun.*) Petty Harbor, Newfoundland. (*R. Bell.*) Plains of Abraham, Q. (*St. Cyr.*) Vicinity of Hamilton, Ont. (*Logie.*) Sandy meadows, London, Ont. Port Stanley, Lake Erie; north shore of Lake Superior, and along Lake Nipigon to Livingstone Point. (*Macoun.*) Emerson, Man. (*Burgess.*) Nelson River, Keewatin. (*R. Bell.*) Frequent on bluffs along the Assiniboine, between Brandon and Fort Ellice; rather common on the lower slopes of the Rocky Mountains; abundant in northern British Columbia, and through the Peace River Pass, and northward to Lake Athabasca; rather common on Vancouver Island. (*Macoun.*) North Point of Texada Island, Gulf of Georgia; Sooke, Vancouver Island; Lake Lindeman, lat. 59° 40′; Pelly Banks, and Pelly River, lat. 62°, N.W.T.; Queen Charlotte Islands. (*Dawson.*) Vicinity of Victoria, Vancouver Island. (*Fletcher.*) Kotzebue Sound. (*Rothr. Alask.*) Red River, Man., 1827. (*Douglas.*) Lake Winnipeg to the Saskatchewan, and Bear Lake; and Rocky Mountains. (*Hooker, Fl.*) Cumberland Islands, Arctic coast. (*Parry.*)

Var. **brevifolia,** Watson, Bot. King's Exp. V., 379.

F. brevifolia, R. Br.; Hook., Fl. II., 350.

Abundant along the Arctic coast, and on mountain tops. Ford's Harbor, Labrador; Upper Savage Islands, Nottingham, Mansfield, and Digge's islands, Hudson Strait. (*R. Bell.*) Fort George, James Bay. (*J. M. Macoun.*) Cumberland Island, Hudson Bay. (*Parry.*) Between Fort Churchill, and Repulse Bay. (*Dr. Rae.*) Pond's Bay, and Port Kennedy, Baffin's Bay. (*Dr. Walker.*) On the higher slopes of the Rocky Mountains, from Canmore westward through the Selkirk Mountains to Roger's Pass; summit of Mount Arrowsmith, alt. 5,700

feet, Vancouver Island. (*Macoun.*) On the Arctic sea-coast and islands; and Rocky Mountains. (*Hooker, Fl.*) Rae River, Arctic coast. (*Dr. Rae.*)

Var. **polyphylla,** Vasey, Cat. Grasses U. S. 90, (1885.)

A fine tall grass growing on hillsides at Goldstream and Nanaimo, Vancouver Island. (*Macoun.*)

Var. **vivipara,** Gray, Man. Ed. V., 633.

Common along the coast of Anticosti, at Jupiter, River. (*Macoun.*) Severn River, Keewatin. (*J. M. Macoun.*) Cumberland House, Bear Lake, and Arctic sea-coast. (*Hooker, Fl.*)

(2906.) **F. Richardsoni,** Hook., Fl. II., 250.

Arctic sea-coast. (*Hooker, Fl.*) Alaska. (*Vasey.*)

(2907.) **F. rubra,** Linn.; Hook., Fl. II., 250.

All forms of this species have running root-stocks. Cape Forteau, Yarmouth, N.S., and North Sydney, Cape Breton. (*Macoun & Burgess.*) Rivière de Brig, Anticosti, and along the Gaspé coast, near Fox River. (*Macoun.*) London, Ont., and Emerson, Man. (*Burgess.*) Near Victoria, Vancouver Island. (*Fletcher.*) Abundant along the whole coast of Vancouver Island, from Esquimalt to Qualicum. (*Macoun.*) Sitka, and Kotzebue Sound. (*Rothr. Alask.*) Bartlett Bay, and Sitka, Alaska. (*Meehan.*) Queen Charlotte Islands. (*Dawson.*)

Var. **villosa,** Vasey. (MS.)

Festuca rubra, var. I., Hook. Fl. II., 250.

North Fork of Old Man River, Rocky Mountains. (*Dawson.*) Apparently not rare in the foot-hills of the Rocky Mountains. (*Macoun.*)

Besides the above variety, we have vars. *genuinea, longiseta,* and *planifolia,* Vasey, which may be distinct enough to separate them from the species. All are common on the coast of Vancouver Island, near Victoria.

(2908.) **F. scabrella,** Torr.; Hook., Fl. II., 252. (Bunch Grass.)

F. Macounii. Vasey; Macoun, Cat. No. 2204.
Melica Hallii, Vasey, Coult. Bot. Gaz. VI., 296.

Summit of Mount Albert, Shickshock Mountains, Gaspé, Q.; Moose Mountain Creek, and Souris Plain, Assiniboia. (*J. M. Macoun.*) Abundant around Brandon, and west to Moose Mountain and Moose Jaw; common at Calgary, and westward in the foot-hills at Morley; on mountains at Spence's Bridge, B.C. (*Macoun.*) Middle Fork of Old Man

River, Rocky Mountains; Frances Lake, lat. 61°, and Finlayson Lake. lat. 62°, N.W.T. (*Dawson.*) Alpine districts of the Rocky Mountains. (*Hooker, Fl.*) On rocky slopes at Lytton, B.C. (*Fletcher.*)

(2909.) **F. subulata,** Bong.; Hook., Fl. II., 250.

Sitka. (*Hooker, Fl.*) We know nothing of this species. It may be included in some other form under another name. Possibly a form of *F. ovina.*

(2910.) **F. tenella,** Willd.; Pursh., Fl. I., 83.

F. bromoides, Michx., Fl. I., 66.

Dry hillsides; not common eastward. Sheldrake River, Q. (*St. Cyr.*) Border of Oak Hill Pond, Hastings Co.; common on Rice Lake Plains, near Castleton, Northumberland Co., Ont. (*Macoun.*) Sandy thickets, Point Pelée, Lake Erie. (*Burgess.*) Vicinity of Hamilton, Ont. (*Logie.*) Port Stanley, Lake Erie; abundant at Spence's Bridge, and northward through British Columbia; dry hills around Victoria, Mount Finlayson, and Nanaimo, Vancouver Island. (*Macoun.*) Cadboro Bay, Vancouver Island. (*Fletcher.*)

730. BROMUS, Linn. Gen. 89. (BROME-GRASS)

(2911.) **B. Aleutensis,** Trin.; Vasey, Cat. Grasses U.S. 92, (1885.)

Alaska. (*Vasey.*) Ounalashka. (*Rothr. Alask.*)

(2912.) **B. breviaristatus,** Buckl., Proced. Philad. Acad. 98, (1862.)

Ceratochloa breviaristata, Hook., Fl. II., 253.

Not uncommon in the Rocky Mountains, and far eastward in the northern prairie region. Along the Red Deer River, Porcupine Mountain, Man.; Red Deer Lakes, and Cypress Hills, and northward to the Athabasca. (*Macoun.*) South Kootanie Pass, Rocky Mountains. (*Dawson.*) Summit of Skagit Mountain, B. C. (*Bowman.*) Vicinity of Victoria, Vancouver Island. (*Fletcher.*) In woods and thickets, not uncommon, Vancouver Island. (*Macoun.*) Near the sources of the Columbia. (*Douglas.*)

(2913.) **B. ciliatus,** Linn.; Pursh, Fl. I., 85.

B. purgans, Linn; Hook., Fl. II., 262, in part.

Common eastward in thickets and damp places. Pictou, N. S. (*McKay.*) On low damp places at Annapolis and Truro, N.S. (*Macoun.*) On intervales, Bass River; and Salmon River, N.B. (*Fowler, Cat.*)

Little Tobique River, N.B. (*Hay.*) North of the Restigouche, at Campbellton, and along the Bay of Chaleur; Salt Lake, Anticosti. (*Macoun.*) Ste. Anne des Monts River, Gaspé, Q. (*Porter.*) Ellis Bay, Anticosti; Pentecost River, Q. (*St. Cyr.*) Abundant in sandy places along the Rivière Rouge, Argenteuil Co., Q. (*D'Urban.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Bank of the St. Lawrence River, near Prescott, Ont. (*Billings.*) Very common in wet woods and thickets throughout central Ontario, and north-westerly to Lake Nipigon and Lake Superior, and south to Pigeon River. (*Macoun.*) Port Colborne, Lake Erie. (*McGill Coll. Herb.*) Rocky thicket, Kingston, Ont. (*Millman.*) Vicinity of Hamilton, Ont. (*Logie.*) River flats, London, Ont. (*Burgess. Millman.*) Lake Mistassini, N.E.T.; Severn River, Keewatin; Willow Point, Lake Winnipeg; and Moose Mountain, Man. (*J. M. Macoun.*) Oxford House, Keewatin. (*R. Bell.*) Vicinity of Winnipeg, Man. (*Prof. Fowler.*) Sand Creek, Kootanie Valley, Rocky Mountains. (*Dawson.*) Rather common in wet meadows and thickets, from Morley westward to the Columbia Valley, and Selkirk Mountains; common on Vancouver Island. (*Macoun.*) Goose Creek Mountains, Cariboo, B.C. (*Bowman.*) Sooke, Vancouver Island. (*Dawson.*) Vicinity of Victoria, Vancouver Island. (*Fletcher.*) Kotzebue Sound. (*Rothr. Alask.*)

Vars. **ligulatus & pauciflorus,** Vasey. (MS.)

These varieties, with some others, are common on many parts of Vancouver Island, but may not be distinct enough to remain separated from the species.

(2914.) **B. Hookerianus,** Thurber, Bot. Wilkes Exp., 493.

Ceratochloa grandiflora, Hook., Fl. II., 253.

Confined to the Pacific coast. Not uncommon in thickets at Goldstream, Cadboro Bay, Nanaimo, and Qualicum, Vancouver Island. (*Macoun.*)

Var. **minor,** Scribner; Vasey, Cat. Grasses U. S. 92, (1885.)

Bromus virens, Buckl., Proced. Philad. Acad. 98 (1862).

Not uncommon on Vancouver Island, at Nanaimo, and Qualicum. (*Macoun.*)

(2915.) **B. Kalmii,** Gray, Man. Ed. V., 634.

B. purgans, Torr., Flora, N. York, II., 463; Pursh, Fl. I., 85; Hook., Fl. II., 252, in part.

Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Rocky woodlands west of Brockville. (*Billings.*) Dry rocky hillsides, Marmora, Hastings Co.;

Wooler, Northumberland Co.; and dry woods, Balsam Rapids, Victoria Co., Ont. (*Macoun.*) Sandy woodlands, London, Ont. (*Burgess. Millman.*) Vicinity of Hamilton, Ont. (*Logie.*) Very abundant throughout the northern part of the prairie region, on gravel ridges or margins of couleès, Long Lake, Thunder Creek, and south of Battleford. (*Macoun.*) Red River, Man., 1827. (*Douglas.*)

(2916.) **B. Macounii,** Vasey, Bull. Torr. Bot. Club XV., 48.

Not uncommon on dry hills. Cedar Hill. and Nanaimo, Vancouver Island. (*Macoun.*) Cañon, Lewes River, lat. 62°, N.W.T. (*Dawson.*)

(2917.) **B.** MAXIMUS, Desf.; Bot. Calif. II., 315.

Sparingly introduced at Victoria, Vancouver Island. (*Macoun. Fletcher.*)

(2918.) **B.** MOLLIS, Linn.; Pursh, Fl. I., 85.

Introduced and naturalized on both the east and west coasts. Along the sea-shore at Yarmouth, N.S. (*Macoun.*) Quebec city. (*St. Cyr.*) Very rare in fields and by roadsides at London, Ont. (*Burgess. Millman.*) Abundant in cultivated ground and under oaks throughout the southern part of Vancouver Island. (*Macoun. Fletcher.*)

(2919.) **B. Orcuttianus,** Vasey, Coult. Bot. Gaz. X., 223.

Not rare in the oak groves at Cadboro, and Oak bays, near Victoria, Vancouver Island. (*Macoun.*)

(2920.) **B. Pumpellianus,** Scribner, Bull. Torr. Bot. Club, XV., 9.

Not uncommon in the prairie region on river banks and couleè margins, from Fort Ellice to Calgary, and thence westward in the Rocky Mountains to the Columbia Valley; northward in British Columbia to Quesnel. (*Macoun.*) Shuswap Lake, B.C. (*Prof. Fowler.*)

(2921.) **B.** RACEMOSUS, Linn.; Gray, Man. Ed. V., 634.

Introduced and naturalized in the older settlements. Among wheat at Bass River, N.B. (*Fowler, Cat.*) Quebec city. (*St. Cyr.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Roadsides and railway tracks at London, and Essex Centre, Ont. (*Burgess.*) Pitt River, B.C. (*Hill.*) Abundant in meadows, waste places, and cultivated grounds, Vancouver Island. (*Macoun. Fletcher. Dawson.*) Vancouver city, Burrard Inlet, B.C. (*Prof. Fowler.*)

(2922.) **B.** SECALINUS, Linn. (Chess or Cheat.)

Introduced and naturalized in all parts of the country. This species

is much less common than thirty years ago. Now, the farmers have excellent fanning mills, and wheat is better cleaned, and hence pure seed is sown. At the period spoken of many believed that winter killed wheat changed into chess. Since the seed is cleaner and the land drained, chess has almost disappeared.

(2922.) **B. subulatus,** Leieb.; Vasey, Cat. Grasses U. S. 93. 1885.

Onnalashka. (*Rothr. Alask.*) Unknown to us as well as the next

(2924.) **B. Sitchensis,** Bong.; Hook., Fl. II., 253.

Sitka. (*Hooker, Fl. Rothr. Alask.*)

(2925.) **B.** TECTORUM, Linn.; Vasey, Cat. Grasses U. S. 93. 1885.

Introduced at Kingston, Ont. (*Millman.*)

(2926.) **B.** SERETUM, Schl.; Vasey, Cat. Grasses U. S. 93. 1885.

Introduced with seed-grain at Shuswap Lake, B.C. (*Prof. Fowler*

731. LOLIUM, Linn. Gen. 95. (DARNEL.)

(2927.) **L.** PERENNE, Linn. (Rye Grass.)

Introduced and cultivated in some localities near Pictou, N. S (*McKay.*) Near railway depot, Carleton, N.B. (*Fowler, Cat.*) Jacque Cartier River, Q. (*St. Cyr.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.* Neighborhood of Belleville, Ont. (*Macoun.*) Hamilton, Ont. (*Logie.*) Meadows at London, and Kingston, Ont. (*Burgess. Millman.*) Quite common on Vancouver Island, where it produces excellent hay (*Macoun.*)

A variety with very long glumes has been gathered at London, Ont. by Dr. Burgess. He writes that it is not *L. temulentum.*

(2928.) **L.** TEMULENTUM, Linn. (Poison Darnel.)

Rather rare or seldom detected. Near railway depot, Carleton, N.B (*Fowler, Cat.*) Along a new road at Cameron Lake, in the centre of Vancouver Island. Introduced in horse feed. (*Macoun.*)

732. AGROPYRUM, J. Gærtn. (WHEAT-GRASS)

(2929.) **A. caninum,** Reich. Icon. Fl. Germ. 119.

Triticum caninum, Schreb.; Hook., Fl. II., 254; Macoun, Cat. No. 2220.

Rather rare on gravel banks eastward; abundant in the northern prairie region. On intervales, Coal Branch, Kent Co., N.B. (*Fowler, Cat.*) Environs of Quebec; rocky bank of Madeline River, Gaspé, Q. (*St. Cyr.*) Mount Albert, Gaspé, Q. (*Porter.*) Banks of the Moira, at Belleville; rocky banks, Shannonville, Hastings Co.; on the Trent, above Trenton, Ont.; woods, Niagara Falls. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) London, Ont.; and Saugeen, Lake Huron. (*Burgess.*) Kaministiqua River, west of Lake Superior; very abundant from Winnipeg westward to Edmonton, on the Saskatchewan; common from Calgary through the Rocky Mountains to the Columbia Valley. (*Macoun.*) Sand Creek, Kootanie Valley, Rocky Mountains; Nicola, and Kamloops, B.C. (*Dawson.*) Lake Winnipeg to the Saskatckewan. (*Hooker, Fl.*) Emerson, and Brandon, Man, and Shuswap Lake, B.C. (*Prof. Fowler.*)

(2930.) **A. dasystachyum,** Vasey, Cat. Grasses U. S. 96, (1885.)

Triticum dasystachyum, Gray, Man. Ed. V., 638.

T. repens, var. *dasystachyum,* Hook., Fl. II., 254.

Sandy shore of Lake Huron, at Saugeen, Ont. (*Burgess.*) North shore of Lake Superior. (*Agassiz.*) West coast of Lake Superior; western Manitoba, Long Lake, Old Wives Lakes, River That Turns, Fort Pitt, and throughout the northern prairie region to Edmonton; from Calgary westward to Castle Mountain, Rocky Mountains. (*Macoun.*) Souris Plain, Man. (*J. M. Macoun.*) Echmanish River, Keewatin; and Nelson River, near York Factory, Hudson Bay. (*R. Bell.*)

(2931.) **A. divergens,** Nees.; Vasey, Cat. Grasses U. S. 96, (1885.)

Triticum strigosum, Less.; Macoun, Cat. No. 2221.

Bunch grass of British Columbia, and the drier parts of the Rocky Mountains. Common on the dry slopes of the mountains along the Bow River, from Morley westward to Banff; on dry slopes of the Thompson and Fraser rivers, B.C. (*Macoun.*) Abundant on the higher slopes at Lytton, B.C. (*Fletcher.*) North Point of Texada Island, Gulf of Georgia, B.C. (*Dawson.*) An awnless variety is found in great profusion on the gravel ridges at the mouth of the Kicking Horse River, Columbia Valley.

Var. **tenue,** Vasey, Cat. Grasses U. S. 96, (1885.)

Triticum ægilopiodes, Turcz.; Gray, Proced. Acad. Phil., 79 (1363).
T. caninum, var. β., Hook. Fl. II., 255.

On dry slopes in Bow River valley, near Old Bow Fort, and ward mixed with the species. (*Macoun.*)

(2932.) **A. glaucum,** R. & S., var. **occidentale,** V. & S.

Triticum repens, Linn., var. *glaucum*, Vasey.

Very abundant in the prairie region, and westward to the Fi River. Souris Plain, Man. (*J. M. Macoun.*) Bank of Souris R Assiniboia. (*Burgess.*) Red River, Man., 1827 (*Douglas.*) I Lake, Red Deer Lakes, and south of Battleford; rather common f Calgary westward on dry benches through the Rocky Mount to Hector. (*Macoun.*) Near Wild Horse Creek, Kootanie Va Rocky Mountains. (*Dawson.*) A form between this species *A. divergens* is abundant along the Thompson River, near Lytton, (*Macoun.*) Very variable, and extending from the Saskatchewa the Arctic sea. (*Hooker, Fl.*) Kotzebue Sound. (*Rothr. Alask.*

This is one of the finest grasses on the prairie for hay or pas It seems to prefer saline and damp soil, and does not grow in bun but singly. There are numerous forms of this which are gene referred to the next, but which I include here. Sir John Richar seems to have found the species all the way to the Arctic sea.

(2933.) **A.** REPENS, Beauv.; Vasey, Cat. Grasses U. S. 96, (1885.)

Triticum repens, Linn.; Macoun, Cat. No. 2217.

We include all our indigenous forms under *A. glaucum*, and u this place the notices of the introduced plant, which is a vile wee many parts of the old settlements. Reported from Newfoundl Nova Scotia, New Brunswick, Quebec, and Ontario, and even f Vancouver Island, on the Pacific coast.

(2934.) **A. tenerum,** Vasey, Coult. Bot. Gaz. X., 259.

Lake Mistassini, N.E.T.; and Severn River, Keewatin. (*J. Macoun.*) Speke's Point, Lake Nipigon; abundant on prairies f Winnipeg westward to the Touchwood Hills, and Edmonton, N. W (*Macoun.*) Pine River Pass, lat. 55°, Rocky Mountains. (*Daw* Brandon, and Emerson, Man. (*Prof. Fowler.*) Red River, Man., 1 (*Douglas.*) Quite common on dry slopes and in meadows westward f Calgary through the Rocky Mountains to the Columbia Valley peculiar form is not uncommon on Vancouver Island, at Goldstr and Nanaimo. (*Macoun.*)

(2935.) **A. violaceum,** Lange; Vasey, Cat. Grasses U.S. 97, (1885.) *Triticum violaceum,* Hornem.; Macoun, Cat. No. 2219.

On the summit of Mount Albert, Gaspé, Q. (*Porter.*) Touchwood Hills, Long Lake, Assiniboia, and westward to Edmonton; rather common in the Bow River valley, from Calgary westward to Kicking Horse Lake, in the Rocky Mountains. (*Macoun.*) Lake Lindeman, lat. 59°,40′; Pelly Banks, lat. 62°; and Lewes River, lat. 61°, N.W.T. (*Dawson.*) Fort Conger, Grinnell Land, lat. 81°, 44′. (*Lieut. Greely.*) Greenland. (*Lange.*)

733. SECALE, Linn. (RYE)

(2936.) **S.** SATIVUM, Linn.

Cultivated in most parts of the country, and occasionally met with in meadows and wheat fields.

734. TRITICUM, Linn. (WHEAT)

(2937.) **T.** VULGARE, Linn.

Many varieties are cultivated. It would be an interesting study if a complete series of these were grown at the Experimental Farm, and specimens of them dried and mounted for future reference. Over two hundred varieties are named and in collections in Europe. Many of the new varieties lately cultivated are no doubt old forms brought into cultivation. The Wild Goose Wheat of Edmonton turns out to be *Triticum Polanicum* or Poland Wheat, and was known over 150 years ago. The legend that this wheat was obtained from the crop of a wild goose may be true, as Linnæus himself believed it to be a native of Central Asia.

735. HORDEUM, Linn. (BARLEY)

(2938.) **H. jubatum,** Linn.; Pursh, Fl. I., 89. (Wild Barley.)

On the sea-coast, and on saline soil in the prairie region. Bedford, N.S. (*Sommers, Cat.*) Salt marshes at Truro, Annapolis, and Yarmouth, N.S. (*Macoun.*) Pictou, and Magdalen Islands, N.S. (*McKay.*)

Sandy soil along the Gulf shore, N.B. (*Fowler, Cat.*) Ellis Bay, Anticosti (*St. Cyr.*) Salt Lake, and English Bay, Anticosti; marshes along the Gaspé coast, Q. (*Macoun.*) Tadousac, St. Lawrence River. (*A. T. Drummond.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) North shore of Lake Superior. (*Agassiz.*) Sault Ste. Marie. (*R. Bell.*) Sands at the mouth of Current River, at the Pic, and at Fort William, Lake Superior; also at Nipigon House, Lake Nipigon. (*Macoun.*) Lake shore, Port Arthur, Lake Superior; Emerson, Man. (*Burgess.*) Red River, prairie generally, and westward to Turtle Mountain. (*Dawson. Millman.*) Nelson River, Keewatin. (*R. Bell.*) Moose Factory, James Bay. (*Cottar & Dr. Hayden.*) Lake Mistassini, N.E.T.; Charlton Island, and Fort George, James Bay: Severn River, Keewatin; Souris Plain, Man. (*J. M. Macoun.*) Red River, Man., 1827. (*Douglas.*) Common on saline soil around ponds, from Winnipeg westward to the mountains, and northward to Peace River, and Lake Athabasca; in the foot-hills of the Rocky Mountains, and westward to Castle Mountain; vicinity of Victoria, and along the coast of Vancouver Island. (*Macoun.*) Milk River Ridge, Alberta; Lewes River, lat. 61°, N.W.T. (*Dawson.*) Fort Yukon, Yukon River. (*Rothr. Alask.*) Plains of the Saskatchewan to the Mackenzie River. (*Hooker, Fl.*) Kamloops, B.C. (*Prof. Fowler.*)

(2939.) **H.** MURINUM, Linn.; Bot. Calif., II., 225.

Introduced in ballast, at Victoria, and Nanaimo, Vancouver Island. (*Macoun.*)

(2940.) **H. pratense,** Huds.; Hook., Fl. II., 256.

H. nodosum, Linn.; Bot. Calif. II., 325.

East end of Cypress Hills, Alberta. (*Macoun.*) Abundant on the coast of Vancouver Island, at Victoria, Cadboro Bay, Nanaimo, Qualicum, and Alberni. (*Macoun.*) Esquimalt, Vancouver Island. (*Fletcher.*) North end of Texada Island, Gulf of Georgia, B.C.; Queen Charlotte Islands. (*Dawson.*) Sitka, and Ounalashka. (*Rothr. Alask.*) Bartlett Bay, Alaska. (*Meehan.*) Vancouver city, Burrard Inlet, B.C. (*Prof. Fowler.*) Sitka. (*Barclay.*)

(2941.) **H. pusilium,** Nutt., Gen. I., 37.

Cadboro and Oak bays, Vancouver Island; also along the Canada Southern Railway, at Amherstburgh, Ont. Introduced from the west along the railway. (*Macoun.*)

(2942.) **H.** MARITIMUM, With.; Hook., English Bot., 505.

Introduced in ballast at Nanaimo, Vancouver Island. (*Macoun.*)

736. ELYMUS, Linn. (RYE-GRASS.)

(2943.) **E. arenarius,** Linn.; Hook., Fl. II., 255.

Common on sand beaches along the coasts of Vancouver Island, both on the east and west sides of the island. (*Macoun.*) Queen Charlotte Islands, B.C. (*Dawson.*) Vancouver city, Burrard Inlet, B.C. (*Prof. Fowler.*) Island of Kodiak. (*Barclay.*) North-west coast to Kotzebue Sound. (*Hooker, Fl.*) Norton Sound to Point Barrow. (*Rothr. Alask.*) Greenland. (*Lange.*)

Owing to the confusion that seems to exist between this species and *E. mollis*, I have placed all the notices of the western form under *E. arenaria*, and the eastern and interior ones under the *E. mollis*. It is extremely probable that they are both forms of one species.

(2944.) **E. Americanus,** Vasey & Scribner.

E. Sibiricus, Linn.; Hook., Fl. II., 255; Macoun, Cat. No. 2224.

All specimens hitherto referred to *E. Sibiricus* are included by the authors in this species, and the Siberian plant is not considered by them an American form. Maimainse, east coast of Lake Superior; Pine Portage, Nipigon River, Ont.; Moose Jaw Creek, east end of Cypress Hills, and north-westward to Peace River, at Dunvegan. (*Macoun.*) Pine Pass, Rocky Mountains, lat. 55°. (*Dawson.*) Rather common in the valleys of the Rocky and Selkirk mountains; very abundant in damp thickets on every part of Vancouver Island. (*Macoun.*) Vicinity of Victoria, Vancouver Island. (*Fletcher.*) Fraser Valley, near Yale, B.C. (*Bowman.*) Sitka. (*Rothr. Alask.*) Emerson, and Winnipeg, Man.; also Vancouver city, Burrard Inlet, B.C. (*Prof. Fowler.*)

(2945.) **E. Canadensis,** Linn.; Pursh, Fl. I., 89. (Wild Rye.)

A fine stout grass growing on river banks and dry hillsides throughout Canada. Pictou, N.S. (*McKay.*) Sussex and Petitcodiac; Eel River, Carleton Co., N.B. (*Fowler, Cat.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Abundant on rocky banks of the Moira and Trent, and their branches in central Ontario. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) London, and Point aux Pins, Lake Erie. (*Burgess.*) Elk Island, Lake Winnipeg. (*J. M. Macoun.*) North shore of Lake Superior. (*Agassiz.*) Côteau de Missouri, and Wood-end, Assiniboia. (*Burgess.*) Souris Plain, Man. (*J. M. Macoun.*) Brandon, and near Fort Ellice, Man.; Moose Jaw Creek, Long Lake, and source of Qu'Appelle River, Assiniboia, and westward in the northern prairie to the Rocky Moun-

tains; on gravelly banks, in the Columbia Valley. (*Macoun.*) Old Man River, Rocky Mountains; also Wood-end, and Turtle Mountain, 49th parallel. (*Dawson.*) Red River, Man., 1827. (*Douglas.*)

Var. **glaucifolius,** Gray, Man. Ed. V., 639.
E. glaucifolius, Willd.; Pursh, Fl. I., 89.

Foliage glaucus and awns longer and more spreading than the type. The difference is more marked in living plants. Niagara Falls; on rocky banks. (*Burgess.*) Sand banks, Prince Edward Co., Ont. (*Millman.*) On rocks, Heely Falls, Northumberland Co., Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Point Edward, River St. Clair, Ont. (*J. M. Macoun.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Sandy shore, Lake of the Woods. (*Dawson.*)

(2946.) **E. condensatus,** Presl, Rel. Hænk. I., 265.

In saline marshes and swamps, both east and west of the Rocky Mountains. Ribstone Creek, east of Hand Hills, Alberta; westward from Medicine Hat to Rocky Mountains; also at Cache Creek, B.C. (*Macoun.*) Kootanie Pass, Rocky Mountains; also Similkameen River, B.C. (*Dawson.*) Ladner's Landing, Lower Fraser, B.C. (*Fletcher.*)

(2947.) **E. dasystachys,** Trin.; Vasey, Cat. Grasses U.S. 99, (1885.)

Severn River, Keewatin. (*J. M. Macoun.*) Nelson River, Keewatin. (*R. Bell.*) North Fork of Old Man River, Rocky Mountains. (*Dawson.*) Abundant on hillsides, and in burnt woods from Calgary westward through the Rocky Mountains to the Columbia Valley; very common in northern British Columbia to McLeod's Lake, lat. 55°. (*Macoun.*) Dease River, B.C., lat. 59°. (*Dawson.*)

(2948.) **E. Macounii,** Vasey, Cat. Grasses U.S. 99, (1885.)

Abundant in many parts of the prairie region, extending from Qu'Appelle westward to the Eagle Hills, and southward to the Hand Hills, where it is particularly common, as well as at Morley. A fine grass growing chiefly in bunches.

(2949.) **E. mollis,** Trin.; Hook., Fl. II., 255.
E. arenarius, var. *β. villosus,* E. Meyer, Labrad. 20.

Abundant along the Atlantic and Gulf coasts. Nain, and Ford's Harbor, coast of Labrador; Cape Prince of Wales, Nottingham Island, and Digge's Island, Hudson Strait. (*R. Bell.*) Pictou, N.S. (*Sommers, Cat.*) Cape Forteau, near Yarmouth, and Halifax, N.S. (*Macoun & Burgess.*) Sand beaches, Kouchibouguac, and at Restigouche, N.B. (*Fowler, Cat.*) Ellis Bay, Anticosti. (*St. Cyr.*) Along the St. Lawrence, at Tamiscouata. (*Pringle.*) North shore of Lake Superior.

(*Agassiz.*) On sand at the mouth of Current River, and along the north-east coast of Lake Superior; east coast of Lake Nipigon. (*Macoun.*) Along James Bay, and north to York Factory, Hudson Bay. (*J. M. Macoun.*) Between Fort Churchill and Repulse Bay. (*Dr. Rae.*) Saskatchewan to Bear Lake, and the Arctic shores. (*Hooker, Fl.*) Greenland. (*Lange.*)

(2950.) **C. striatus,** Willd.; Pursh, Fl. I., 89.

E. villosus, Muhl.; Pursh, Fl., I., 89; Hook., Fl. II., 256.

We have never seen Canadian specimens of this species. Niagara Falls, and London, Ont. (*Burgess.*) Vicinity of Hamilton, Ont. (*Logie.*) Canada. (*Goldie,* in *Hooker, Fl.*)

(2951.) **E. Virginicus,** Linn.; Michx., Fl. I., 65; Pursh, Fl. I., 89; Hook., Fl. II., 255.

Abundant in the alluvium of river flats. Quite common at Whycocomagh, Cape Breton, and Truro, N.S. (*Macoun & Burgess.*) On intervales at Hampton, and Coal Branch, N.B. (*Fowler, Cat.*) Ellis Bay, Anticosti; St. Foye Road, Q. (*St. Cyr.*) Vicinity of Ottawa. (*Fletcher, Fl. Ott.*) Kemptville, Ont. (*Porter.*) Low ground along brooks and large streams throughout central Ontario, west to Owen Sound, and north-westerly to the west side of Lake Superior. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) London, Ont.; in the river flat; Emerson, Man. (*Burgess.*) Rosseau River, Man. (*Dawson.*)

Var. *β.* **submuticus,** Hook., Fl. II., 255.

Along the Nation River, at Casselman, near Ottawa. (*Fletcher, Fl. Ott.*) Cumberland House, on the Saskatchewan; common east of the Rocky Mountains. (*Hooker, Fl.*) Not uncommon along the Assiniboine and Qu'Appelle rivers, Man. (*Macoun.*) Easily distinguished from the species by the short awn.

(2952.) **E. Vancouverensis,** Vasey, Bull. Torr. Bot. Club, XV., 48.

Abundant, growing in sand close to the sea; on Mr. Fuller's farm, Oak Bay, near Victoria, Vancouver Island. Extensively creeping in the sand, by running root-stocks. Collected June 30th, 1887. (*Macoun.*)

(2953.) **E. Columbiana,** (120.)

Abundant, growing in tufts on gravel close to the sea, at Qualicum, Vancouver Island. (*Macoun.*) Texada Island, Gulf of Georgia, B.C. (*Dawson.*) A very interesting grass with the general appearance of *A. tenerum.*

737. ASPRELLA, Willd. (BOTTLE-BRUSH GRASS.)

(2954.) **A. hystrix,** Willd.; Hook., Fl. II., 257.

Elymus hystrix, Linn.; Torr., Fl. I., 138.

Gymnostichum hystrix, Schreb.; Macoun, Cat. No. 2231.

On rocky soil in woods, not common. Eel River, Carleton Co., N.B. (*Fowler, Cat.*) Between Florenceville, and Andover, N.B. (*Brittain.*) St. Remi, Q. (*McGill Coll. Herb.*) Rocky woods, near Ottawa. (*Fletcher, Fl. Ott.*) Common near Prescott, Ont. (*Billings.*) Rocky woods and thickets around Belleville, Ont.; woods at Owen Sound, Ont. (*Macoun.*) Vicinity of Hamilton, Ont. (*Logie.*) Near Kingston, Ont. (*Millman.*) Thickets at London, Ont. (*Burgess.*) Canada to the Saskatchewan. (*Hooker, Fl.*)

Addendum.

(2955.) **Carex læviculmis,** Meinch. (ined.)

C. elongata, Hook., Fl. II., 213.

Sitcha. (*Bong.*) I am informed by Mr. Bennett that Charles F. Meinchausen, Director of the Botanical Museum, St. Petersburgh, has just named the Alaskan *C. elongata* as above, but the description has not yet been published.

GEOLOGICAL AND NATURAL HISTORY SURVEY OF CANADA.
ALFRED R. C. SELWYN, C.M.G., LL.D., F.R.S., F.G.S., DIRECTOR.

CATALOGUE

OF

CANADIAN PLANTS.

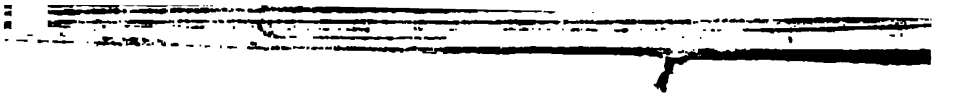
PART IV.— ENDOGENS.

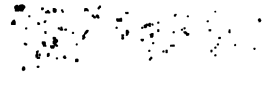
BY

JOHN MACOUN, M.A., F.L.S., F.R.S.C.
Naturalist to the Geological and Natural History Survey of Canada.

MONTREAL:
DAWSON BROTHERS.

1888.





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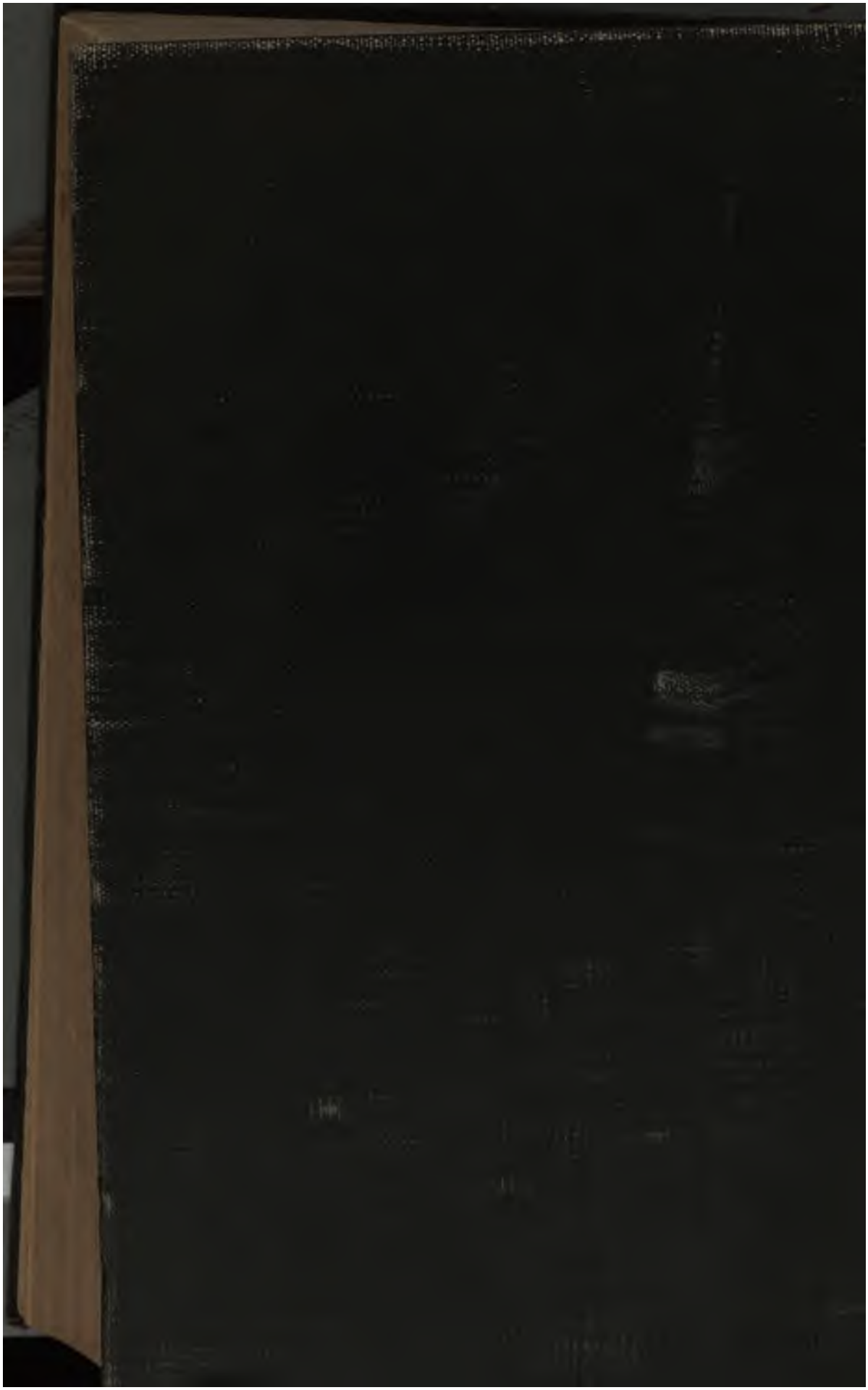
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